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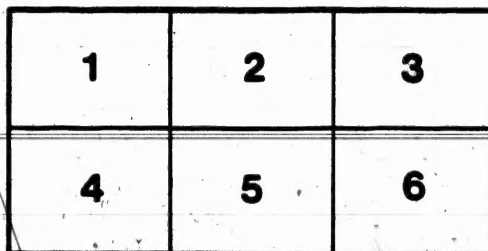
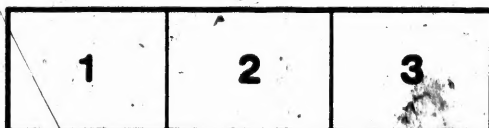
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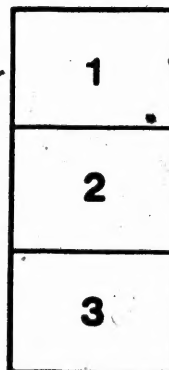
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184

SAILING DIRECTIONS

FOR THE

ISLAND OF NEWFOUNDLAND,

THE

COAST OF LABRADOR,

AND

THE GULF AND RIVER ST. LAWRENCE.

COMPILED CHIEFLY FROM THE SURVEYS MADE BY ORDER OF THE

British and French Governments,

BY CAPTAINS H. W. BAYFIELD, R.N. ; P. BULLOCK, R.N. ; JAMES COOK, R.N. ;
MICHAEL LANE, DES BARRES, LOCKWOOD, LAMBLEY, AND OTHERS ;
AND BY CAPTAIN C. F. LAVAUD, OF THE FRENCH NAVY.



PUBLISHED BY JAMES FURRAY AND SON,
CHART AND NAUTICAL BOOKSELLERS,
102, MINORIES.

1845.

COMMUNICATIONS FOR THE FUTURE IMPROVEMENT OF THIS, OR ANY OF OUR
WORKS, WILL BE THANKFULLY RECEIVED AND ACKNOWLEDGED.

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Langley
Danish
Cinq Is
Conneg
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Bonne
Cape L
The Bar
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SAILING DIRECTIONS

FOR THE

GULF AND RIVER ST. LAWRENCE.

*** THE BEARINGS AND COURSES ARE ALL BY COMPASS, UNLESS WHEN OTHERWISE EXPRESSED. THE SOUNDINGS ARE ALL REDUCED TO THE LEVEL OF LOW WATER, SPRING-TIDES. THE DISTANCES ARE IN NAUTICAL MILES OF 60 TO EACH DEGREE.

IT HAS RECENTLY BEEN ORDERED BY THE LORDS COMMISSIONERS OF THE ADMIRALTY THAT THE WORD "PORT" IS TO BE SUBSTITUTED FOR THE WORD "LARBOARD," IN ALL H.M. SHIPS OR VESSELS, ON ACCOUNT OF THE SIMILARITY EXISTING BETWEEN THE WORDS STARBOARD AND LARBOARD, FROM WHICH MANY MISTAKES HAVE ARISEN.

PART I

NEWFOUNDLAND.

GENERAL REMARKS.

THE ISLAND OF NEWFOUNDLAND is the most eastern part of America, and the nearest to Europe. The distance between the island of Valentia on the south-west coast of Ireland, and St. John's on the east coast of Newfoundland, is 1668 nautical miles. The island is situated between $46^{\circ} 40'$ and $51^{\circ} 39'$ N. lat., and $52^{\circ} 44'$ and $59^{\circ} 31'$ W. long., on the north-east side of the entrance to the Gulf of St. Lawrence. The form of it is very irregular, and the shores are broken by numerous bays and harbours. Its north-western extremity is separated from the coast of Labrador by the Strait of Belle Isle. The south-west point is opposite to Cape Breton; it is open on the east to the Atlantic, and its west coast forms the eastern boundary of the Gulf of St. Lawrence. Its extreme length, measured on a line extending from Cape Race in the south-east, to Cape Norman, at its northern extremity, is 328 miles, and the length from Cape Free, the northern entrance to the Bay of Bonavista, to Cape Ray, opposite to Cape Breton, is about 250 miles. The island has never thoroughly been surveyed, but it is computed to contain 35,600 square miles, though some estimates make it considerably more.

The appearance of Newfoundland, from the sea, is extremely rugged, the coast line being broken into many inlets and harbours. All the settlements have been made for the purpose of prosecuting the fishery: they have been uniformly placed on the coast, and few or no attempts have been made even to acquire any knowledge of the interior. These settlements now amount to 50 or 70, the greater part of which are on the eastern and southern shores, and particularly the former. The only large town

GENERAL REMARKS.

on the island is St. John's, situated in about $47^{\circ} 35'$ N. lat., $52^{\circ} 38'$ W. long., on the east side of the island, which, besides being the seat of government, is the principal harbour for trading vessels.

Newfoundland was probably first discovered by the Northmen about the year 1000. John and Sebastian Cabot, on their second voyage, discovered Cape Bonavista, on this island, on the 24th of June, 1497. Landing in the adjoining bay, they found several natives dressed in the skins of animals, and formally took possession of the island, which they called *Baccalaos*, the name given to cod-fish by the natives; a name, it may be remarked, which has been adopted into the language of Portugal (*bacalhao*), from which country some adventurers subsequently proceeded to the island and formed a settlement, from which they were driven by the English under Sir Francis Drake in the reign of Elizabeth. In 1610 a charter was granted to a company of adventurers of London and Bristol, for colonizing Newfoundland, and a colony was established at Conception Bay. Four years later, courts of justice were established by royal authority in the island; and the first Lord Baltimore, in 1623, established a flourishing colony at Ferryland, on the east coast, where he himself resided for many years. From this time numerous settlements were continually made along the east coast by the English, while the French established themselves on the south, at Placentia, in the bay of that name, and maintained possession of it until the treaty of Utrecht, in April, 1713. By this treaty Newfoundland and its dependencies were declared to belong wholly to Great Britain, but the French were allowed to fish and cure what they should catch on some parts of the shore, but were not allowed to erect fortifications or any other buildings, except such as were strictly required for the purposes of the fishery.

It was agreed in 1818, that the vessels belonging to the United States should have, in common with the British subjects, the privilege of catching fish on the southern coast, between Cape Ray and the Ramea Islands, and on the western and northern coasts, from Cape Ray to the Quirpon Islands; also on the shores of the Magdalen Islands, and on the coasts, bays, harbours, and creeks of Labrador, from Mount Joli through the Straits of Belle Isle, and thence northward, indefinitely along the coast as heretofore, but without prejudice to the exclusive rights of the Hudson's Bay Company. And they have also the liberty to dry and cure fish in any of the unsettled bays, harbours, and creeks, of the southern parts of Newfoundland and Labrador, but so long only as they shall remain unsettled.

BANKS OF NEWFOUNDLAND.—To the eastward, as well as to the southward of the island of Newfoundland, are several extensive *sand-banks*, abounding with fish of various kinds. In sounding, the bottom is commonly covered with great quantities of shells, and frequented by shoals of small fish, most of which serve as food for the cod; and these thrive so amazingly, and are so inconceivably numerous, that although many hundreds of vessels have been annually supplied with them for more than two centuries, yet such a prodigious consumption has not apparently diminished their numbers. The fishery is not confined to the banks, but extends, in equal luxuriance, to the shores and harbours of Newfoundland, Nova Scotia, and Breton Island. The fish commonly are most abundant where the bottom is sandy, and the depth about 30 fathoms; where the bottom is of mud they are observed to be less numerous. In winter they appear to retire to the deep water, but in February, March, and April, they come again on the banks, and fatten rapidly.

THE GREAT BANK to the south-eastward of the island, extends from about the lat. of 45° N. to $47^{\circ} 45'$ N. Its form, like that of the other banks, is not easily defined; but about the latitude of 45° , its breadth is nearly 5 degrees, whence, to the southward, it narrows almost to a point, and seems suddenly to drop into fathomless water. The north end, which is nearly in the latitude of Cape Spear, is about 60 miles across, having 45 to 48 fathoms, sand and shells. In the latitude of Cape Race, or in $46^{\circ} 40'$ N., and long. $47^{\circ} 30'$ W., soundings in 75 fathoms, whitish sand, will be obtained; this will be about 140 miles to the eastward of the Virgin Rocks. Although, in this parallel, the Grand Bank extends farther to the eastward, than when you are farther to the southward, it cannot be recommended as a safe one, on account of the

* In "British America," by Mr. McGregor, Vol. 2, 1863, is given a copious description of the mode of fishing and curing in Newfoundland, as shown also, by a quotation from the same work, in the "Nautical Magazine," June, 1863, p. 190.

rocky shoal of only 21 feet water, of about 100 or 200 feet in extent, reported to have been seen by Mr. Jesse Ryder, of the fishing schooner Bethel, in 1845, in lat. $45^{\circ} 30'$ and about 50 miles to the eastward of the Virgin Rocks; it is, therefore, necessary to proceed with caution when running on this parallel. We will suppose that you are approaching the St. Lawrence from the eastward, in that case, in lat. $45^{\circ} 30'$, you will obtain soundings on the edge of the bank in long. $46^{\circ} 45' W.$; here the bank is very steep. In lat. $44^{\circ} N.$ and long. $46^{\circ} W.$, you will strike the edge of the bank in 105 fathoms, very fine grey sparkling sand; but immediately you are to the westward of this position, the soundings decrease. Hence, the edge of the bank has a south-westerly direction to lat. $45^{\circ} N.$ and long. $49^{\circ} 50' W.$, where are 60 fathoms, having immediately to the eastward shoal water of 40 fathoms, fine sand, shells, and mud, and to the westward, deep water. In the western part of the bank, in long. $53^{\circ} 20' W.$, is a deep gulley called the Trou de la Baleine or Whale Deep, in which are 57 to 60 fathoms, with a bottom of mud or ooze having a fetid smell; this deep abounds with different sorts of fish, but more particularly the cod, which are inconceivably numerous. The depths of the Great Bank vary from 20 to 90 fathoms, and the bottom also varies considerably, but it generally consists of sand, or sand mixed with shells and gravel, rarely with stones. The eastern face of the bank is of clear whitish sand, and often sparkling. But the best idea of the shape and soundings of the bank will be gained by referring to the chart which accompanies this work.*

The Virgin Rocks.—Should you miss the Great Bank between 46° and 47° parallels of latitude, you must be very careful to avoid being drifted upon Cape Race or Virgin Rocks. These rocks were surveyed by Captain Bishop, R.N., and Mr. Rose, R.N., and the following particulars are the result of their observations. The bank on which the Virgin Rocks are situated was found to extend $4\frac{1}{2}$ miles in an E. by S. and W. by N. direction, and to be $2\frac{1}{2}$ miles wide in its broadest part, the depths being regular from 28 to 30 fathoms. Beyond these limits, the depth increased suddenly to 39 and 43 fathoms. In the Nautical Magazine for 1832, p. 10, it is stated that "their meridian distance from Halifax was found to be $12^{\circ} 46' 5'' E.$, and the longitude of the rocks depends on Halifax Dock-yard, which is supposed to be in $68^{\circ} 38' 41'' W.$ " Mr. Rose describes these rocks as extending in an irregular chain, or cluster, 300 yards in the direction of N.E. by E. and S.W. by W., their breadth varying from 200 to 300 yards. They were distinctly seen under water, particularly a large mass of white rock, in 44 fathoms, having 5 and $6\frac{1}{2}$ fathoms round it. The shoal was trauced in 7 fathoms, on detached rocks, near the edge of it, having deeper water between them. On the southern edge of the shoal, from S.E. to West, the depth increases gradually to 30 fathoms, at the distance of half a mile from the shoalest part. The same depth was found to the N.W. and N.E. of the shoal, at the distance of one-third of a mile, and also between N.E. and S.E., at the distance of one mile. The current was found setting to W.S.W., at the rate of one mile per hour over the shoal, with a confused cross swell.

Shoal.—A shoal of 21 feet water was lately discovered (1845) by Mr. Jesse Ryder, of the fishing schooner Bethel, in lat. $45^{\circ} 30' N.$, which appeared to be a rock of 100 or 200 feet surface. He discovered it accidentally while searching for the 9-fathom bank, to fish upon, and supposed it to be about 50 miles to the eastward of the Virgin Rocks, and to bear S. by W. about $1\frac{1}{2}$ miles from the 9-fathom bank. Mr. Ryder was certain that it formed no part of the Virgin Rocks, having afterwards seen them, and from his experience of the different fishing grounds knows it to exist.

To the westward of the Great Bank is a series of banks, called the Green, St. Pierre, Mizen, Banquerman, Canoe, and the extensive bank which extends off Sable Island, to the westward, along the coast of Nova Scotia. All these banks have from 20 to 70 fathoms on them, and afford a good indication of a ship's approach to land.

* Or the reader may refer to the large chart of the banks, on two sheets, sold by the publishers of this work.

† On the French charts of the banks, a shoal of 9 fathoms, seen by a Captain Bortol, in 1844, is stated to lie in lat. $44^{\circ} 45' N.$ and long. $49^{\circ} 51' W.$, but the position is somewhat uncertain. The words Bortol and Bethel (the name of Mr. Ryder's vessel) are not so unlike, but that they may have been confounded; in that case, the dangers may be the same, although they differ widely in latitude.

GENERAL REMARKS.

THE FLEMISH GAP, called also the Outer or False Bank, is a patch of rising ground to the eastward of the Great Bank, in long. $44^{\circ} 30'$ W. and between latitudes 47° and 48° N. It has lately been partially surveyed by M. Lavaud, of the French Navy, from whose observations it appears to be very steep on the western edge, there being no bottom immediately after sounding in 130 or 150 fathoms on its edge. From long. $44^{\circ} 52'$ W. and lat. $46^{\circ} 58'$ N., in a depth of 73 fathoms, large stones, a line of soundings gradually increasing in depth, was carried to the northward, to lat. $47^{\circ} 50'$ N. and long. $45^{\circ} 12'$ W., where the depth was found to be 147 fathoms, bottom of soft mud. Between it and the western edge of the Great Bank is much deeper water, with a bottom of fine sand and oars, which will scarcely stick to the lead, and as you proceed westward towards the Great Bank you will meet with fine whitish sand, speckled black.

If bound to St. John's Harbour, it is advisable to keep on the parallel of 46° , or 1° to the southward of the parallel of that port, and until you approach the outer edge of the Great Bank, and obtain soundings in long. $48^{\circ} 30'$ or 49° W., to steer directly to the north-westward for Cape Spear; but if bound for the Gulf of St. Lawrence, you should endeavour to cross the bank in $45^{\circ} 30'$, and when about in 55° or 56° of longitude, shape your course north-westerly for St. Paul's Island, or Cape North or Breton Island.

In thick weather the lead should be kept going when leaving the western edge of the Green Bank, to ascertain when you fall into the deep gully of 80 to 90 fathoms, mud, which runs N.N.E. and S.S.W., about 60 miles, between St. Peter's and the Green Bank. The middle of the gully is in lat. $45^{\circ} 35'$ N.; by sounding in this gully, and feeling the edges of the banks on each side of it, you will obtain a fresh departure.

If making St. Pierre or St. Peter's Island, adopt the following course, which is followed by the French fishing vessels. From the longitude of 52° W., in lat. 45° N., steer a N.W. course, which will carry you across the Green Bank in about 45 fathoms water, and when in the meridian of $55^{\circ} 10'$ W., in about $45^{\circ} 30'$ N., you will suddenly deepen your water to 90 fathoms. A farther run on the same course for about 10 miles, will carry you across this gully, when you will shoal your water to 35 and 30 fathoms; and after a farther run of 23 miles, may steer about N.N.E. directly for the island.

In the spring or summer, vessels from Great Britain should keep well to the northward; for it has been long observed that vessels from the Pentland Frith and the Clyde, have always made quicker passages than those from Bristol or the English Channel. During the winter season the American packets always keep well to the northward. The preferable course for vessels bound for the Bay of Fundy, in the summer, is to keep as far to the northward as lat. 47° , until reaching long. 40° W., then to edge away so as to cross the tail of the bank in about lat. $43^{\circ} 36'$ N. At this season of the year you will be more clear of the numerous fishing-vessels that resort to the banks, and perhaps fall in with less ice, but a strict look-out for the latter is always necessary. After being to the westward of the banks, endeavour to keep in lat. 45° , to avoid the northern edge of the Gulf Stream; but in the winter the bank should be crossed well to the northward to guard against the north-westers, which blow very heavily.

Two vessels bound to the lower ports in the St. Lawrence have been known to pass the Pentland Frith together, in the month of April; the one had a passage of 21 days, and the other, the faster sailer, of 7 weeks. In comparing logs afterwards, it appeared that they were both in about long. 30° W. on the same day, but the one was about 100 miles to the southward, with a gale at West, while the other to the northward was running 9 knots, with a fresh gale at N.E. All the ships which kept to the northward had fine passages.

To these remarks on the passages from England to Newfoundland, the following, by a correspondent of the Nautical Magazine, 1833, p. 329, may prove not unacceptable.

"Although the voyage to and from North America, between the parallels of 60° and 40° , has always been attended with a degree of peril, from masses of ice which drift to the southward, during the summer months, from the polar regions, yet many an unwary mariner makes his run across the Atlantic without any apprehension of meeting these floating dangers, or without sufficiently exercising a proper discretion and

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vigilance to guard against coming in collision with them. This is not mere conjecture, but the information of persons who annually perform the voyage, beside the result of my own observation, in accidents which have repeatedly occurred to vessels between Newfoundland and England, and in the number of missing ships on this route. Commanders of ships should therefore bear in mind the imperative necessity there is for using their utmost vigilance and attention when crossing the above-named parallels, especially between the meridians of 80° and 60° West, to guard against coming in contact with these formidable dangers of the ocean.

The *New York packet ships*, well supplied with every essential equipment, and elegantly fitted for the accommodation of passengers, when making their winter voyage from Liverpool, keep in high latitudes until nearing Newfoundland. This they do for the twofold object of avoiding the tempestuous weather so generally experienced to the southward, and of obtaining fairer winds; and thus, by slipping within the mighty stream from the Florida Channel, they evade its retarding influence. The voyage by this route is shortened; and, although bad weather must be expected, it is not so violent as farther south; besides which, the eastern current is avoided. I believe it is an unusual thing to meet with ice in this part of the Atlantic in the winter; but we have the following recent instance to the contrary, so that a look-out should be kept in that season, as well as in the summer, by vessels making the voyage.

It appears that the *Emulous* packet, on the 26th of February, 1833, met with much field-ice on the coast of Nova Scotia; and in the latitude of 43° N. and long. 49° W., those on board were much surprised by falling in with a large quantity of strongly packed ice, which reduced the vessel's way to 6½ and 7 knots, from sailing at the rate of 9 knots, under close-reefed main-top-sail and reefed fore-sail. On the 4th of March, she fell in with three bergs, of large dimensions, in a run of 95 miles; and at nine the same evening she was obliged to pass between the two easternmost of these before heaving-to for the night; after which, by keeping a more northerly course, no more of these dangerous floating masses were seen.

From all accounts it seems that the greatest danger is to be apprehended in the vicinity of the Banks of Newfoundland; and this, as every navigator knows, is increased by a dense fog which generally pervades the atmosphere in that quarter, and, of course, shortens the distance of vision to a very circumscribed limit.

The Banks are frequently enveloped in dense fog, which, from the middle of spring to December, have been known to last 8 and 10 days successively; at such times they are often so thick that you will not be able to see any object 10 fathoms distant; a continual drizzling rain is dropping from the sails and rigging, a general calm prevails, and sometimes attended with a considerable swell of the sea, so that you are constantly in fear of running foul of some vessels, or being drifted by the currents upon some danger, which, from a total inability of discovering, you will have great difficulty to avoid. The currents which surround the Island of Newfoundland are frequently so violent and so irregular, sometimes driving towards the shore and sometimes towards the sea, that the greatest caution will always be found necessary; while the current coming from the northern regions sweeps along the shores of Labrador, and, in the spring, detaches immense icebergs, which float to the southward, and become exceedingly dangerous, especially in foggy weather; some of these masses will frequently be grounded in 40 or 50 fathoms water, and others will be met with farther out to seaward, at the distance of 125 or 130 leagues from the land. Fortunately these formidable objects may generally be discovered, even in dark weather, by a white and bright appearance of the sky above them, and also by the roar of the waters breaking against them; they also may be apprehended by the intense coldness they diffuse to a great distance around them; they continue and are usually met with as late as June, July, and August. Your approach towards the banks may be known by the numerous sea fowls which will attend you, as rook, malmawks, and divers; these latter are seldom found more than 30 leagues off the banks, but malmawks and others are occasionally seen all across the Atlantic, but in the vicinity of the banks they become numerous. The great fishery commences in May and continues till the latter end of September.

Caution, *Winn, &c.*—It has been observed that vessels bound to the Gulf of St. Lawrence should take the greatest care to notice the currents, which set from the

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eastward, all along the southern coast of Newfoundland, with frequently fatal velocity, causing an impetuous indraught into the various bays, and occasionally the loss of many lives, and the wreck of numerous vessels. These local currents chiefly prevail on that part between Cape Race and Cape Ray. The British frigate *Tweed*, the sloop *Comus*, the transport *Harpooner*, were all, of late years, lost on this coast; the two latter nearly on the same spot, and within three weeks of each other. H.M. ship *Drake*, in June, 1822, was wrecked about the eastern head of St. Shoto's Bay; and in the July following the brig *Spence* was totally lost on the same dangers: so that it would seem that more vessels have been cast away on the small point of land which divides the two bays of Trepassy and St. Mary, than on any other part of the island;—that these accidents were occasioned by the currents, there can be little doubt.

It frequently happens that a vessel bound from England to Quebec will strike soundings on the Great Bank of Newfoundland, and thence shape her course for the Gulf of St. Lawrence, without ever seeing the land, which, probably, is enveloped in fog. When unable or neglecting to make a proper allowance for the above current, which runs sometimes at the rate of 4 miles an hour, he is swept away to the westward; and while he considers himself to be steering fairly for the entrance of the gulf, he is driven on shore, and his vessel becomes a wreck.

An able navigator, who has been 20 years employed in the fisheries, and who is a native of Newfoundland, observes,—“It is well understood by all the boat-masters, that there is, in general, a strong current setting in from the eastward, along the western coast of Newfoundland, which, after passing Cape Pine, runs more towards St. Mary's and Placentia Bays. This current will be felt at least 20 leagues to the S.W. of Cape Pine, and becomes more rapid as you approach the land, its velocity increasing as the winds favour its direction; but at all times of sufficient magnitude to endanger the safety of any vessel approaching from the south or west, in foggy weather, and being ignorant of its existence.”

In order to avoid the danger arising from this current, the fishermen, in foggy weather, when returning from the western coast to their homes on the eastern shore, invariably use the lead, depending more upon the depth of water than their compass, and always keeping a sufficient distance from the land, to ensure the safety of the vessel. On passing to the eastward of Cape Race, they never approach nearer to the land than 35 fathoms water; the ground being more of an inclined plane on the west than on the east coast. You will find that depth of water at a considerable distance; the ground becomes more broken, and the depth of water increases so fast, that in your course from Cape St. Mary's to avoid Cape Race, you will, when to the eastward of it, find yourself in 60 fathoms, and when advanced a very short distance farther, you will sound in 60 and 70 fathoms; consequently, the land will then be cleared, and you may safely pursue what course you think proper; but, in all this navigation, the mariner's safety will, in a great measure, depend upon a due attention to the lead.

The winds being variable, there is little doubt but that they produce many changes in the currents; shifts of wind to the southward of the island being so common that it often happens that, after blowing a gale from one point, it suddenly shifts to the opposite, continuing to blow with the same violence. One vessel may thus be lying to with a heavy gale, while another 30 leagues distant might be in a similar situation with the wind in quite an opposite direction, a circumstance that has been known to happen.

We will close these remarks upon the currents by adding the following from the French chart of the banks, by M. Lavand of the French Navy.

“The direction of the currents at the north and south, and on the eastern approach to the Great Bank, varies little from E.S.E. to S.S.E. (true), and is generally between those points; its velocity is seldom less than 8 to 10 miles in the 24 hours, and sometimes increases to 24 or 30 miles. Mariners should observe, that outside all the banks, and especially off the south part of the Great Bank, the currents bend and form such strong eddies, that a vessel becalmed, or with light winds, cannot estimate her position with exactness; this is probably occasioned by the edge of the Gulf Stream.

The currents on the Great Bank have a variable direction, of which the wind is not the only cause, as it is, at times, in a different direction. The fishermen state,

that the current every day makes the round of the compass; and it is found, by close observation, that beyond the meridian of Cape Race it is mostly to the westward."

Ice.—The following remarks upon ice in the North Atlantic by Mr. W. C. Redfield, although perhaps not immediately connected with our subject, are added, as they cannot but prove interesting to the reader:—

"Of the various dangers which beset the path of the mariner, perhaps there are none which excite so near vigilance than the known or expected proximity of ice. In some frequented portions of the Atlantic Ocean the ice appears almost every year, in the various forms of field-ice, floes, and massive ice-islands, drifted from the arctic regions by the constant action of the polar currents. These ice-bearing currents, in flowing towards the South, must necessarily incline towards the western limits of the ocean, owing to the increased velocity of the diurnal rotation of the earth's surface as we depart from the poles; a law well understood as regards the currents of air which form the trade winds. Hence it is that on and near the Banks of Newfoundland these ice currents are found to cross the usual track of vessels bound from the ports of Europe to North America.

The quantity of ice which appears on this route of navigation in different years, is exceedingly various. It is sometimes seen as early in the year as January, and seldom later than the month of August. From March to July is its most common season. It is found most frequently to the west of long. 44°, and to the eastward of long. 52°; but icebergs are sometimes met with as far eastward as long. 40°, and in some rare cases even still further towards Europe.

Experience has shown that the proximity of ice is far less hazardous than rocks or shoals; and this floating danger would be still less formidable were it not for the fogs and mists which it often causes. The thermometer has been often held up as affording sure indications of an approach to ice, by the reduction of temperature shown both in the air and water, and these indications are important and should by no means be neglected. But there may be many cases of approach to ice where a reliance upon the thermometer alone could not afford security.

Although little or no ice be seen in one passage, or even in many times crossing the Atlantic, yet it has been frequently met in such quantities as seemed to indicate a vast or indefinite extension of the ice-fields, towards the polar seas."

EAST COAST OF NEWFOUNDLAND.

CAPE RACE TO CAPE ST. FRANCIS.

CAPE RACE, the south-east point of Newfoundland, lies in latitude 46° 30' 44" N. and longitude 55° 4' W., and is a table land of moderate height. A black rock lies near to it, and several smaller ones around it.

From Cape Race to Cape Ballard, the course is N.E. by E. 6 miles; nearly one mile to the southward of Cape Ballard, is a high black head, called Chain Cove Head between the points is a cove. To the westward of Chain Cove Head, lies Chain Cove, before which lies a black rock above water. Nearly midway between Capes Race and Ballard is Glean or Glean Cove, a place only fit for boats.

About 8 miles E.S.E. from Cape Race, and to the southward of Cape Ballard, is a fishing bank, called New Bank, about 5 miles long, and nearly 2 miles broad; on it there are from 17 to 25 fathoms water.

RENEWES.—At the distance of 6½ miles N.E. ½ E. from Cape Ballard lie some small rocks, bold-to, named the Renewes, which are of moderate height, and lie one mile from the main land. About 3 miles to the northward of these rocks, and about a mile to the southward of the entrance to Renewes Harbour, lies Renewes Island, which is situated close to the main land. The Harbour of Renewes is but a small indented place, and has not above 15 or 16 feet at low water. There are several

* We are informed that a very fine beacon has been erected on this cape, as an additional means of marking it. We regret that we have not the particulars of it.

CAPE RACE TO CAPE ST. FRANCIS.

rocks in the entrance, and the south-east winds heave in a very great sea. To sail in you must keep the north shore on board.

FERMOUSE HARBOUR lies about $2\frac{1}{2}$ miles from Renowes, having between them a small place named Bear's Cove, off which there is a sunken rock, about a cable's length from the shore. Fermouse is an excellent harbour, there being no danger in sailing into it, though the entrance is not more than a cable's length wide. Just within the entrance, on the north shore, is a small cove, in which a fishery is carried on, but there is no safe place for anchoring. About one quarter of a mile farther in, on the same side, is another cove, named Admiral's Cove, in which merchant-vessels generally ride in 7 or 8 fathoms water, land-locked. About a mile farther up the harbour is a place named Vice-Admiral's Cove, on the south of which is the best anchorage for large ships, in 12 or 15 fathoms water, muddy ground, as there you will be conveniently situated for obtaining wood and water. Farther up, on the same side, is Sheep's Head Cove, directly off which, near the middle of the channel, there is a shoal, on which are only 9 feet water; this is the only known danger in the harbour.

About N.E. by E. one mile from Fermouse Harbour is Bald Head, and one mile farther N. by E. is Black Head.

AQUAFORT HARBOUR is about one mile N. by W. from Black Head, and has in its entrance a high rock above water, to the northward of which is the passage in, with about 15 fathoms water. The harbour runs into the westward about 3 miles, narrowing as you advance, until about half a mile from the head of the bay, where it becomes much contracted, affording however about 4 fathoms water. Just within the narrows is a small cove of about 7 fathoms water, which is considered to be a good place for vessels to heave down, the shore being steep. To sail through the narrows, give a berth to the stony beach on the north shore, without the narrows, it being shoal, excepting at the point of the narrows where it is bold-to.

FERRYLAND HARBOUR.—Ferryland Head lies E. $\frac{1}{2}$ S. distant 2 miles from Aquafort, and N.E. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from Fermouse. It is moderately high, having, close off it, two high rocks above water, named the Hare's Ears. The head is not easily distinguished, on account of the main land within it being much higher. The entrance into Ferryland Harbour lies to the northward of the head, between it and Isle Bois, and is little more than half a cable's length wide; but after you are within water, it is much wider and affords tolerable good anchorage in 8 or 10 fathoms; but the north-east winds heave in a very great sea over the low rocks that extend from the Isle Bois to the main.

From Isle Bois to Goose Island, the course is N.E. by N. $\frac{1}{2}$ N. distant half a mile; and from Goose Island to Stone Island, the course is N. 5° W., distant half a mile.

CAPLIN BAY runs in N.W. by N. $2\frac{1}{2}$ miles from Goose Island, and is considered to be a tolerably good harbour, having a safe passage into it on either side of Goose Island. To the northward of Goose Island, between it and Stone Island, there is not the least danger, the islands being bold-to. If you pass to the southward of Goose Island, between it and Isle Bois, be sure to keep the point of Ferryland Head open to the eastward of Isle Bois, in order to avoid a sunken rock, on which there are only 2 fathoms water, lying nearly midway between Goose Island and Cold East Point; after you are within this rock, there is no danger in sailing up the bay. The best anchorage is abreast of a cove on the port hand about half a mile within Scoggin's Head, in 16 or 17 fathoms water.

From Ferryland Head to Cape Broyle, the course is N.N.E. $2\frac{1}{2}$ miles. This cape is a high table land, and makes in the form of a saddle, either from the northward or southward. From the north part of the cape, southward three-quarters of a mile, is a small rock, called Old Harry, on which are only 3 fathoms water; but between it and the main are upwards of 20 fathoms water. About three-quarters of a mile to the E.N.E. of Cape Broyle there is a ledge of rocks, called the Horse Rocks, on which are from 7 to 14 fathoms water; in bad weather the sea breaks very high on these rocks. The mark for these rocks is, or was, a white house on Ferryland Downs open upon them.

CAPE BROYLE HARBOUR.—From the north part of Cape Broyle to the south part of Briggs Head, the distance is $1\frac{1}{2}$ miles. These points form the entrance into

CAPE RACE TO CAPE ST. FRANCIS.

Cape Broyle Harbour, which runs 4 miles up. About $1\frac{1}{2}$ miles within the entrance on the north shore is a cove, called Admiral's Cove, in which is anchorage in about 12 fathoms water, good ground, but exposed to the south-east. The best anchorage is above the Narrows, in about 7 fathoms water. The only danger in sailing up the harbour is a ledge, called Saturday's Ledge, which lies about $1\frac{1}{2}$ cables' length without the Narrows on the north shore. If you are coming in from the northward, keep the Saddle on Brigus Head open with the point of Admiral's Cove, as it will carry you clear of this ledge. After you are above the Narrows, you may anchor in about 7 fathoms water, good ground, where you will be conveniently situated for obtaining wood and water.

Close to the northward of Brigus Head is the small cove of that name, fit only for boats.

Cape Neddick lies $4\frac{1}{2}$ miles from Cape Broyle, and $7\frac{1}{2}$ miles from the Hare's Ears off Kerryland: it is a table land, of moderate height, and steep towards the sea. From Cape Neddick to Baleine Head, the distance is $1\frac{1}{2}$ miles. Baleine Cove is about one-quarter of a mile to the northward of Baleine Head, and is but a small place, fit only for boats. From Cape Neddick to the outer point of Great Island, the course is N.E. by E. $\frac{1}{2}$ E., distance $2\frac{1}{2}$ miles. This island is about half a mile in length, and of moderate height.

From Baleine Head to Spear Isle, the course is N.N.E. $\frac{1}{2}$ E., distance 1 mile. Within this island a fishery is carried on, but there is no safe anchorage, the bottom being rocky. Toad's Cove is about a mile to the northward of Spear Isle, and is only fit for boats. About $1\frac{1}{2}$ miles from Spear Isle, lies the south point of Momables Bay, called Tinker's Point; from which to the north point of the said bay, being the south point of Witless Bay, the distance is about $1\frac{1}{2}$ miles. Momables Bay is an open bay, about one mile deep.

Green Island is a small round island, about three-quarters of a mile from the south point of Witless Bay. From this point a ledge of rocks extends about one-third of the distance over to Green Island.

The south point of Gull Island lies about three-quarters of a mile to the northward of Green Island. The island is about one mile long, and a quarter of a mile broad, and is pretty high land.

WITLESS BAY extends inwards about 2 miles from Gull Island, and affords a moderate depth of water, and good ground, but open to the sea. About half-way up, on the north shore, there is a ledge of rocks, partly above water at about half-tide.

BAY OF BULLS.—One mile and a quarter to the northward of Gull Island is the south point of the entrance into the Bay of Bulls; from this point to the north point of the said bay, called Bull Head, the course is N.E. by E., distance $1\frac{1}{2}$ miles. The best anchorage in this bay for large vessels, is about half a mile from the head, in about 14 fathoms water, but small vessels may anchor higher up, and moor to the north shore, where they will lie land-locked. The only dangers in this harbour are a small rock off Bread and Cheese Point, but not above twenty yards off, and a rock, on which are 9 feet water, lying off Margoty Cove, about half a cable's length from the shore.

From Bull's Head to the south point of Petty (Petit) Harbour, from which a reef extends about a quarter of a mile, the course is N.E. about $8\frac{1}{2}$ miles. The south point of Petty Harbour is distant from the north point $2\frac{1}{2}$ miles; between which is the bay running in 3 miles, and having at the bottom of it a cove and fishery. About midway between the Bay of Bulls and Little Bay is a cavern, having an opening at the summit, through which the water spouts whenever the sea runs high, thus presenting a remarkable object visible a considerable distance off; it is hence called the Spout.

CAPE SPEAR.—From the north point of Petty Harbour to Cape Spear, the course is N.E., distance $2\frac{1}{2}$ miles. This point is rather low and ragged, and may be known by the land to the northward trending away to the N.W. Cape Spear is the easternmost point of Newfoundland, in lat. $47^{\circ} 30' 20''$ N., and long. $52^{\circ} 37' 30''$ W., and is the point to which vessels, bound from the eastward for St. John's, generally steer, upon getting into soundings.

The lighthouse on Cape Spear exhibits a powerful revolving light, at 275 feet above the level of the sea, which in clear weather may be seen at 8 leagues off. The light shows a brilliant flash at intervals of one minute.

CAPE RACE TO CAPE ST. FRANCIS.

There are three bays between Cape Spear and the entrance to St. John's: 1, Cape Bay lying between Cape Spear and Black Head; 2, Deadman's Bay between Black Head and Small Point; and, 3, Freshwater Bay between Small Point and Fort Amherst.

From Fort Amherst, on the south head at the entrance of St. John's Harbour, there is shown a brilliant fixed light, which, from its elevation, may be seen at a considerable distance.

ST. JOHN'S HARBOUR.—The city of St. John's is the capital of the island, being the seat of government; and although its approach is narrow, its harbour is excellent, and its situation readily known, both by the block-house on Signal Hill, at the north side, and Fort Amherst, on its south side, or point of entrance. The channel, from point to point, is only about one-sixth of a mile wide; but it is wider just within the points than between them, decreasing again as you approach the Chain Rock; for, from the latter to the Pancake Rock, the distance is only 95 fathoms; these rocks both being above water and steep-to: Chain is the northern rock, and Pancake Rock lies on the south side of the channel. Three small knolls lie between these two rocks, with from 18 to 24 feet on them.

In approaching the harbour of St. John's with a large ship, care must be taken to avoid the Vestal Rock, which lies about 50 fathoms off the southern, or Fort Amherst Point; over this rock are 18 feet water: the marks for it are Fort William, or the old garrison, just open of the south head; and the outer Wash-ball Rock, open to the eastward of the Cuckold's Head: these latter rocks lie close to the northern point of the harbour, and are always above water, being steep-to, and therefore not dangerous. The course is in N.W. by W., the shore continuing bold until you get near to the Pancake, then give the south side a small berth; continue the same course, or rather more inclined to the westward, keeping Fort Amherst flag-staff open to the northward of Frederick's Battery flag-staff; you will, by these means, avoid the Prosser, a rock on the port side, running off the end of another rock, formed like a saddle, with 16 feet water in the hollow, and only 6 feet on its outside; yet it is steep-to, having not less than 5 fathoms close to it; so soon as you are within, and have passed the Prosser Rock, you may steer up as you please, both shores being clear of dangers, and anchor in from 4 to 10 fathoms water, on a bottom of mud, and lying quite land-locked.

The winds from the S.W. to the southward, as far as N.E. by E., blow in, all other directions of the wind either baffle or blow out of the Narrows; with the latter winds you must warp in, for the convenience of doing which rings are fixed in the rocks on each side. The anchorage within the Narrows has from 10 to 16 fathoms, and a little before you enter the Narrows there are 20 fathoms.

The tides rise 6, neaps $3\frac{1}{2}$ feet, but very irregular, being much influenced by the winds; and the variation is about two points westerly. It is high water, F. & C., at about 7h. 50m.

The town of St. John is composed of one long street, running nearly parallel to the shore, and of several shorter streets or lanes which branch from the main street at right angles. Most of the houses are of wood, some are of brick, and others of stone. The shore is entirely lined by wharves, which are mostly occupied by stages for curing fish. The government has a fine wide wharf, which is open to the public. The population of the town fluctuates extremely with the season. At the height of the fishing the place is crowded, but many of its then inhabitants return to Europe in the trading vessels. St. John's is built on a peninsula, which Lord Baltimore named the province of Avalon. The entrance to the harbour is guarded by various batteries, and formerly a chain was extended from the Chain Rock (hence its name), to prevent the entrance of a hostile force.

A stranger to the coast should be careful not to mistake Kitty Vitty, a small place, sit only for boats, lying about a mile to the northward of St. John's, for St. John's itself, as at a distance it has the appearance of a good harbour. He will therefore observe, that at Kitty Vitty's south side is a round hill, shaped like a haystack, standing upon Cuckold's Head; while St. John's Harbour may be distinguished by Fort Amherst, which appears white, and by the flag-staves on the hill, over the north point of entrance, which sufficiently denote the right entrance.

About a mile from Cuckold's Point is a small point or projection of the land; and 2 miles farther is Sugar-Loaf Point, tapering upward, and much resembling a sugar-

FROM CAPE ST. FRANCIS TO BOCALIEU ISLAND.

leaf. One league farther is Red Head, having a small bay called Lory Bay between.

TORBAY.—One mile and a half from Red Head, is the southern point of Torbay, which is somewhat lower than the others. From this point to Green Cove, the ordinary place where vessels anchor, the course is about W. by N. 10 miles, where it may ride in 14 and 12 fathoms, but much exposed to seaward winds, being fully a league in extent. From off its northern point is a small bay, called the sea breaks. A heavy swell sets from the eastward into the bay, and is not a good place to lie in.

From Flat Rock Point, which is low, dark land, the coast runs northerly to Red Head, a distance of 3 miles; and from thence to Black Head, in the same direction, 3 miles more.

CAPE ST. FRANCIS.—From Black Head to Cape St. Francis, the course is N.N.W., distance one league. Cape St. Francis has a white appearance, and is itself low, but above it the land rises high. A little south of the cape is Shoe Cove, a place used in bad weather for spitting and salting fish. Off the cove there is good fishing, and with northerly, westerly, and southerly winds, you will lie safe within the cove.

About $\frac{1}{2}$ miles to the eastward of Cape St. Francis, in a triangular position, lie some sunken rocks, called the Brandy Rocks, on which the sea generally breaks. There is a channel between them and the cape, but too dangerous to be made use of, while the rocks add to the safety of Shoe Cove. Another small cove, to the northward of the cape, may be used with the wind off-shore.

FROM CAPE ST. FRANCIS TO BOCALIEU ISLAND.

CONCEPTION BAY.—* From Cape St. Francis, the southern point of Conception Bay, to Bocalieu Island, the northern boundary of the entrance, the course and distance is N.N.E. $\frac{1}{2}$ E. about 18 miles. This bay is very extensive, running to the south-westward, and contains many smaller bays and inlets, of which we proceed to give a more minute description.

BELLE ISLE.—Four leagues S.W. by W. from Cape St. Francis is a lofty island named Belle Isle, which is $6\frac{1}{2}$ miles in length, and about 3 miles wide. Its eastern side is nearly 3 miles off the main, and there is on this side a beach, to the southward of which is good anchorage in 30 fathoms, sandy ground: a league farther, near the south part of the island, is also tolerable anchorage in from 15 to 30 fathoms. At the south end of the island is a small cove, named Lance Cove, where fishing vessels occasionally resort, and find good shelter for 3 or 6 vessels. One mile from the south part of the island lies a rock, over which are 3 fathoms water. Two miles to the southward of Lance Cove is a small, low island, named Little Belle Isle, having to the W.S.W. of it, distant $1\frac{1}{2}$ miles, Kelly's Island, of middling height, and about three-quarters of a mile in length. On the main, within Belle Isle, is Portugal Cove, in which there is no safe anchorage. Broad Cove lies to the southward of Portugal Cove, and at the bottom of the bay is Holyrood Harbour, which runs in about $3\frac{1}{2}$ miles, and where, in a cove on the west side near the head, is very good anchorage in 10 or 12 fathoms water, and sufficient room to moor.

At $1\frac{1}{2}$ miles distant from Holyrood Harbour is Harbour Main, about half a mile wide and $1\frac{1}{2}$ miles deep, having anchorage near the head in 7 to 10 fathoms water, but it is entirely open.

SALMON COVE.—Salmon Cove lies about a mile to the westward of Harbour

* It is a fact worthy of notice, that the whole of the land in and about the neighbourhood of Conception Bay, very probably the whole island, is rising out of the ocean at a rate which promises, at no very distant day, materially to affect, if not to render useless, many of the best harbours we have now on the coast. At Portgrave a series of observations have been made, which undeniably prove the rapid displacement of the sea level in that vicinity. Several large fish rocks, over which schooners might pass some thirty or forty years ago, with the greatest facility, are now approaching the surface, the water being scarcely navigable for a skiff. At a place called Cook, at the head of Bay Roberts, upwards of a mile from the sea above, and at several feet above its level, covered with five or six feet of vegetable mould, there is a perfect beach, the stones being rounded, of a moderate size, and in all respects similar to those now found in the adjacent littorals. — *Northwestern Times.*

Main. The entrance to it is about a mile wide, and runs to the W.S.W. about 2½ miles, then dividing into two arms, one running to the westward one mile nearly, and the other to the southward 1½ miles. In either of these arms there is very good anchorage, but the best is in the southern arm in from 8 to 10 fathoms water, there being no danger in going into it. To sail into the western arm, keep a rock above water off the point on the port hand, going in, well on board, in order to avoid a sunken rock that lies nearly opposite, a small distance from the starboard shore; there is a passage on either side of this rock, but the southern is by far the widest.

About a league to the westward of Salmon Cove lies Collier's Bay, which runs in nearly 2 leagues. About 1½ miles from the entrance there is a sunken rock near mid-channel, on either side of which is a safe passage up the bay; this rock shows at three-quarters ebb. At 2½ miles from the entrance, on the east side, is anchorage in about 10 fathoms water before a cove: small vessels may haul into the cove, and lie in 8 or 4 fathoms water, and moor to the shores. About 1½ miles higher up, on the same side, is another cove, but there is no anchorage in it, being aboal and full of sunken rocks. Near the head of the bay is very good anchorage in 9 or 10 fathoms water.

About 3 miles to the northward of Collier's Bay is situated Brigus Bay, which runs in from Brigus Head 1½ miles; in it is anchorage in 10 or 15 fathoms water, but it is entirely open. At the head of the bay, on the south side, is an island, within which vessels may anchor in 8 or 4 fathoms water, but must moor to the shores, where they will be secure from all winds.

PORTGRAVE BAY lies to the northward of Brigus, and has within it Sheep's or Ship Cove, and Cupid Cove; the latter lies on the south side of Portgrave Bay, and has in it good anchorage in 5 or 6 fathoms water, with room for 2 or 3 ships to lie at their anchors, almost land-locked. Its north side is so bold that ships lie alongside the rocks, and take in their cargoes. The land on the northern side of the entrance is remarkably high, and thence called Spectacle Head.

Sheep's or Ship Cove has within it 4 and 5 fathoms water, and will accommodate small vessels mooring head and stern, having their S.W. anchor in 22 fathoms, about 1½ cable's length from the ship.

Portgrave is about three-quarters of a mile to the westward of Sheep's Cove. Within the islands the water is shallow and fit only for boats; but about one-third of a mile without them is anchorage in 20 to 25 fathoms water, but quite exposed to south-easterly winds.

From Burnt Head, the south point of Portgrave Bay, to Bay Robert's Point, the southern point of the entrance to Robert's Bay, the bearing and distance are N.E. ½ N. 2½ miles. About one mile to the southward of Bay Robert's Point is Blow-me-down Head, remarkable by being higher than the land near it; between Bay Robert's Point and Blow-me-down Head is a small cove called Hibb Hole.

In Bay Robert there is no invisible danger at its entrance. In sailing in you may borrow on either side, or go close to an island, of a moderate height, which lies about a mile from the entrance on the starboard side; and having passed the island you may run on about a mile, and lie land-locked in 9 and 10 fathoms. Between the island and the main vessels may anchor, but the ground is bad, and there are two sunken rocks within it, one lying near the inner side of the island, and the other above the island near the main. Two miles above the island on the same side is the north-west arm, in which is excellent anchorage in 5 or 6 fathoms water, on a muddy bottom, but it is necessary in sailing in to give the south point a good berth, in order to avoid some sunken rocks lying off it. On the starboard shore it is shoal also, nearly half a cable's length off.

Spaniard's Bay is separated from Bay Robert by a narrow neck of land. It is about one mile wide and four miles deep, having anchorage near its head in 7 or 8 fathoms water, but open to N.E. winds.

From Spaniard's Bay to Harbour Grace Islands, the bearing and distance are N.E. about 2 leagues. These islands lie off the south point of the entrance of Harbour Grace. No vessel should attempt a passage between them and the main, as the ground is foul and shoal, and there are rocks about the islets. On one of these islands there is a lighthouse, which shows a fixed light from the top of a square wooden building. Bryant's Cove, to the southward of Harbour Grace, is not a place for ships, although a good place for fish. A rock lies in the middle of the

entrance, having on each side of it 4 and 5 fathoms water. The ground within the rock is clean.

HARBOUR GRACE.—The entrance of this harbour lies to the northward of Harbour Grace Islands. A rock, called the Salvage, stands nearly in the middle of the channel; and there is another called Long Harry, near the north shore, having only a boat passage between it and the main: both are of considerable height above the water. Within the bay, a bar or ledge extends from the south side, more than half-way over. You may turn into Harbour Grace, all the bay over from side to side. The Salvage may be passed on either side, as most convenient; and having passed within this rock, you may go from side to side, by the lead, till you draw towards the edge of the bank, then proceed by the North Shore.

You may know when you are near the bar, or ledge, by two white rocks on the land, by the water side, in a bank on the north side, which show whiter than any other part; these are about a mile below, or to the eastward of the beach, which is proper to be known: by keeping near the north shore, you will find 3½ fathoms on the bar, and presently after 4, 5, 6, and 7 fathoms; but if you stand over to the southward, till you have advanced within the bar, or ledge, you will not have above 7, 8, or 9 feet of water. This sand trends S.E. from athwart the two white rocks above mentioned, and extends up to the south shore. Having passed its outer extremity, you may turn from side to side, till within the beach, on the north side, and ride land-locked in 4, 5, or 6 fathoms, or higher up in 7, 8, 9, or 10 fathoms, as you please.

To the northward of Harbour Grace lie Carboniere Island and Harbour, a short distance to the southward of which is situated Mosquito Cove, in which is good anchorage on clean ground, although it is little frequented.

CARBONIERE ISLAND AND HARBOUR.—Carboniere Island lies one mile from shore: its south end is low, and has, or had, a fort on it. The island is bold-to, as are also the shores of the harbour; but off the S.W. end of the island are several rocks under water, which render the passage between the island and the main very dangerous. On the north side, opposite Carboniere Island, are two coves, namely, Clown's Cove, and Crooker's Cove, off which are several rocks both above and under water; therefore, in sailing or working in or out of Carboniere, give the rocks a small berth, and after you reach Otterbury Point, you may stand close over on either shore till you come near the head of the harbour. You may anchor in what depth you please in from 5 to 10 fathoms, but the ground is indifferent, being in some parts rocky.

From Carboniere Island to Salmon Cove Head, the bearing and distance are N.E. by N. about 2 miles. Salmon Cove Head is a remarkable high steep head, having to the northward of it a cove which affords an abundant supply of salmon, but only shelter for boats.

From Salmon Cove Head to Broad Cove Head, to the northward, the distance is 4 miles; and from the latter head to Green or Western Bay Point, the distance is about 3½ miles. Off Broad Cove and along shore about one mile to the northward, is anchorage in 10 to 15 fathoms water.

GREEN OR WESTERN BAY.—In the entrance of this bay is very good anchorage in 15 or 16 fathoms water, taking care not to go too far into the bay, lest the wind should come to the eastward, as it lies entirely open to the sea.

Devil's Point Cove lies 4½ miles to the north-eastward of Green Bay, but is a place of little consequence. To the northward of it is Island Cove, and still farther to the northward is Flamborough Head, which is black and steep-to, but there is no place of shelter near it except with off-shore winds.

BAY VERDE, where the ships lie, is about half a mile to the westward of the head. The entrance is not above a cable's length across, and the ships lie in 5 fathoms water, about half a cable's length from the head of the bay, with one anchor out astern, and the other cable fast on shore ahead. There is room only for 7 or 8 ships to lie, even in this manner; and it is a dangerous place with south-westerly winds, which blow right into it. Bay Verde is a place easily known by Bocalieu and the projecting land called Split Point. Bay Verde Head itself will serve to point out its position, for these three heads (Bay Verde Head, Split Point, and Bocalieu Island) appear prominent bluff land, and are very similar to one another when seen from the southward; and there is no hidden danger in entering the bay.

FROM BOCALIEU ISLAND TO CAPE BONAVISTA.

Bocalieu Island is high land, and is nearly 4 miles in length and 1½ broad, and lies about the latter distance from the main. Nearly midway between its south point and Split Point there is a small rock, on which are 6 fathoms water, and on which the sea breaks very high in blowing weather, but the water is deep round it.

About 4½ miles to the northward of Split Point is Point Grates; after rounding which you will open Trinity Bay.

FROM BOCALIEU ISLAND TO CAPE BONAVISTA.

TRINITY BAY.—This extensive bay, between Bocalieu or Bacalliao Island on the S.E. and Trinity Harbour on the N.W., is, upon an average, 5 leagues in breadth, and about 17 leagues in depth. The south-eastern point of the bay is named Point Grates; the next point to the north-westward is Break-heart Point, between which there is a small bay where boats may lie with off-shore winds. Within the bay there is a ledge of rocks, which, however, show above water. The course from Break-heart Point to Sherwick Point is S.W. by W. 3 miles. Bocalieu Island lies some distance from shore, to the southward of Break-heart Point; between it and Sherwick, the coast falls in a pretty deep bay, winding S.S.E. three-quarters of a mile.

OLD PERILCAN.—Sherwick Point, off which is a rock above water, forms the northern point of Old Perilcan; vessels cannot go between the island and point, although the passage appears good and open, because the ground is altogether foul and rocky; always, therefore, run into the southward of the island, and when you have passed it, anchor in 4 or 5 fathoms. This cannot be considered a good harbour as the ground is bad for holding.

The course from Old Perilcan to Salvage Point is W. ½ N. distant 5 miles. Salvage Point is low, and requires a good berth, having a reef of rocks running out from it nearly a mile.

The course from Salvage Point to Hunt's Head is W. by S., a distance of about 6½ miles; and to the eastward of the head, at a mile distant, is Hunt's Harbour, which is fit for small craft only. Hunt's Harbour Rock, over which the sea generally breaks, lies 3 miles off Hunt's Harbour, and you may clear it to the northward by bringing King's Head open of the Sugar Loaf. At two miles farther is King's Head, and from King's Head to the Sugar Loaf the course and distance is S.W. ½ W. about 3 miles.

Silles Cove lies eastward of the Sugar Loaf, and is fit only for boats.

NEW PERILCAN.—The course and distance from the Sugar Loaf to the north point of the entrance of New Perilcan, are S.W. ½ W., 3 miles; and a mile farther is the harbour, which is small, but tolerably good, and where you may lie land-locked in 5, 6, 7, 8, 9, or 10 fathoms. The shores are bold-to, and free from danger; the entrance is nearly 2 miles wide, being bounded by Smutty Nose Point on the east, and Gorio Point on the west, but as you advance the harbour becomes narrower, so that at the anchorage it will scarcely be half a mile broad.

Three miles from New Perilcan is Heart's Content, a good anchorage for any ship, with excellent anchorage towards the north shore, in 10 or 12 fathoms water. One league farther is Heart's Desire, fit for boats only; and beyond that is Heart's Delight, another cove, adapted for small craft only.

From Heart's Delight, about 3 miles, is Long Point, projecting considerably into the bay, and a league farther is Witless Bay, by no means a place of safety, being too much exposed, and the bottom rocky; between Long Point and Witless Bay are two small islands, which you leave on your port side. One mile from Witless Bay is New Harbour, where vessels may anchor in from 7 to 10 fathoms, and three miles farther is Hope-all-a-head; two miles beyond which is New Harbour, a place of anchorage, and nearly fit for boats.

NEW HARBOUR.—Two and a half miles from New Harbour, is Dingo Harbour, which is a good anchorage, in a cove, at the northern side of the entrance, from 8 to 10 fathoms water, good clean ground. Three miles from there is Shapple Bay, the entrance of which is a mile broad, and the bay about 3 miles deep; here, behind a small island about 2 miles in, is good anchorage, in from

6 to 12 fathoms. Long Cove is situated about 8 miles to the northward, running nearly in the same direction to Chapple Bay; 6 miles farther is the Point of Tickle Harbour Bay, which runs inward, in a south-westerly direction, full 9 miles; there is no danger in the way, and, though little frequented, the anchorage is safe.

THE BAY OF BULLS runs in a N.N.-Westerly direction to within 3 miles of Chance River, in Placentia Bay. There is very good anchorage in various parts of this bay, in 12 and 10 fathoms water, particularly on the western side, in a cove, about 1½ miles from the entrances, with from 10 to 15 fathoms, sandy ground. To the N.E. is Bull Island, and 5 miles further Copper Island: both these lie very near the shore. To the northward of the Bay of Bulls, is situated Deer Harbour.

Deer Harbour is an extensive place, with good anchorage, but barred with many shoals, the first of which lies midway between Tickle Point and Deer Island, having 6 fathoms on its shallowest part, and therefore is not dangerous; but one-third of a mile farther in is a bank, with only 2 and 2½ fathoms water; bring the point of the N.E. cove open of Shallop Cove Point, and you will go clear to the westward in 7 fathoms water. There is also another shoal lying off the point on the outside of Shallop Cove, on which are 2½ fathoms, which will be avoided by just opening the point of Deer Island with the first point on the main, within Deer Island; and after you have passed Harbour Island, you may anchor on good ground, in from 10 to 20 fathoms. The entrance of Deer Harbour bears from the north point of Bocalieu Island, W. ½ S., distant about 15 leagues.

About 2½ miles N.E. from the entrance to Deer Harbour is Jones' Harbour, the entrance of which is not above a quarter of a mile wide, and the channel in is, in several parts, still less: it runs in 3½ or 5 miles, and has good anchorage in from 6 to 24 fathoms water. To the southward is a high and steep island, called Jones' Island; about 4 miles from which is Bald Head; and 2 miles farther is Gannet Cove, having its entrance confined, being not more than a quarter of a mile wide, but there is, nevertheless, good riding within it in 10, 12, and 15 fathoms. About a cable's length off the north shore, just at the entrance, lies a sunken rock, and about a mile S.S.E. from the south point of Long Island, is another rock, by some called White Island, just appearing above water; this rock bears S.W. from Random South Head.

Random North Head lies W. by N., distant 9½ leagues, from the north end of Bocalieu Island, and about 4½ leagues N. by W. from New Perlican.

RANDOM SOUND lies to the westward, and comprehends several arms and harbours; thus Random and Smith's Sounds unite and form Random Island, the channels being narrow, long, and circuitous. At the junction of the two sounds is a small island, with a bar almost dry at low water, the passage being not a mile broad.

In Random Sound about 3 leagues from Random North Head lies Hickman's Harbour, where you will find good anchorage in 15 fathoms. Random North Head bears from Random South Head N.E. ½ E., distance 8 miles. When you are within the entrance of Random Sound there is a branch which runs towards the south-west, named the S.W. Arm, about a mile within which is Fox Cove, fit for boats, and 2 miles farther Little Heart's Ease, a similar cove running in a quarter of a mile, then dividing into two branches; the western one has 4 and 5 fathoms within it, but the eastern branch is shallow and only adapted for boats. There is also anchorage 3 miles farther, on the same side, in a cove with an island before it, with 8 fathoms, and not far from this another cove on the northern side, where a vessel may ride in 7 fathoms.

SMITH'S SOUND has generally deep water, and is in most places one mile wide, until you get near the head. Shut-in Harbour is on the starboard side, nearly at the entrance, and has no safe anchorage, the ground being rocky; 3 miles farther up is Pope's Harbour, which also is encumbered with rocks, besides a shoal lying near the middle of it. The direction of the channel is westward about 7½ leagues. To the westward of Random Island are Duck and Green Islands, both lying a considerable distance from the main; the latter is high and may be seen so far as Trinity Harbour, and bears from Bonaventure Head about S.W. ½ S., distant nearly 6 miles; and Bonaventure Head bears from the entrance of Smith's Sound E. by N., distant 5 miles. To the north-westward of Green Island is Anthony Island and Ireland's Eye; the latter is 2½ miles in length, and lies in a S.W. and N.E. direction, making the port-side of the entrance to Smith's Sound. The northern point of Ireland's Eye



bears from Bonaventure Head nearly S.W., distant $5\frac{1}{2}$ miles; about midway between these is another small island named Ragged Island.

Ryder's Harbour, a small place of anchorage, on the eastern side of Random Island, is formed by a small island bearing from Green Island W. $\frac{1}{2}$ N., distant 4 miles. The passage to it is found the west end of the point, off which are some scattered rocks, both above and under water. Within this harbour are 3 fathoms water, and about a quarter of a mile from Ryder's Island the N.W. arm branches off, running westward one mile, and being about a quarter of a mile wide; here are 7 fathoms and good anchorage. From Bonaventure Head to Port Bonaventure are 2 miles, but when you are a mile off, and to the southward of the head, the harbour to the Admiral's Stage will lie about N. by W.

PORT BONAVENTURE.—The best entrance to Port Bonaventure is between two small islands, but you may go on either side of them in 3 and 4 fathoms water; with a leading wind there will be little danger, and when you are within, and have passed these islands, anchor in 4 and 5 fathoms. Southerly winds here send in a very heavy sea; there is, however, a secure place for boats within a point behind the Admiral's Stage, appearing like a great pond, where 100 boats may lie, even with bad weather, in safety.

From Bocallieu North Point to Bonaventure Head, the course and distance are N.W. $\frac{1}{2}$ W. 23 miles. Bonaventure Head is remarkably high and steep.

TRINITY HARBOUR.—From Bonaventure Head to the entrance of Trinity Harbour, the course and distance are N.E. $\frac{1}{2}$ N. $4\frac{1}{2}$ miles, and from Bonaventure Head to the Horse-Chops, E. $\frac{1}{2}$ N., 8 miles.

Trinity Harbour is considered one of the best and largest harbours in all Newfoundland, having several arms and coves, where some hundred ships may ride land-locked. It is a place where you may safely turn in or out, being bold-to on each side, and having no danger but what is visible; except when going into the S.W. arm, where the Admiral's Stage usually is, there is a shoal, called the *Muscle Bank*, which shoots off from the point within the small island on the port side going in, and extends over N.N.W. about a third of the breadth of that arm. Being within that bank, which will discover itself by the colour of the water, you may edge over close to the south shore, or keep your lead going to avoid the *Muscle Bank*, giving it a little distance. In order to avoid it, the mark is, or was, the house, standing over the steep perpendicular rock, situated between Tavernor's Point and Ship Cove, open of the Neddiok; keep this mark on, until you are half-way over to the Neddiok, then haul towards the S.W. branch, taking care to avoid the south shore, till you shut in Tavernor's Point with the Neddiok; you will then go within the *Muscle Bank*.

You may anchor in from 14 to 10 fathoms and approach near to the stage on shore, so as to make a stage with topmasts to your stage on shore, to load or unload your ship. This will be found a most excellent harbour; for, after you are in the S.W. arm, you will perceive another branch running up to the N.W., which is continued by another to the S.W.; but there is a bar or ledge, at the entrance of this S.W. arm.

The N.W. arm is also a large place, having good anchorage for 500 sail of ships. Besides the before-mentioned arms, the main harbour turns up to the north.

Ships, being within the harbour's mouth, may safely ride in a large cove on the starboard or east side, land-locked, on good ground: here the planters live. Over against that cove, on the west side, are two other coves, the southernmost of which is named the Vice-Admiral's Cove, and is very convenient for curing fish; and above, or to the northward of that, is a large cove, or arm, called Gots' Cove, where there is room enough for 300 or 400 sail of ships to ride, all on clear ground; there, neither winds, sea, nor tide can hurt you, and in this place ships may lie unexposed until the weather becomes clear and open.

There are several other anchoring places in this harbour with good clean ground. The bottom everywhere is tough clay, with 4 and 5 fathoms water, within two bores' length of the shore; and 6, 7, 8, 9, 10, 12, and 14 fathoms, and in some places more, in the middle of the arms and channels. You may turn in or out readily, observing your tide, which rises about 4 feet, and sometimes more.

Robinhood's Bay is formed on the south-west side by Sherwick Head. The entrance is a mile wide, and the bay extends northward nearly 3 miles; here vessels frequently ride and fish in from 7 to 17 fathoms water. At the further or upper end

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FROM BOCALIEU ISLAND TO CAPE BONAVISTA.

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of this bay there are some spots of shallow water, but at its entrance, and between Sherwick and Fox Island Points, there is no danger whatever.

Salmon Cove and English Harbour lie to the eastward of Robinhood's Bay, being only divided from it by a narrow neck of land, called Fox's Island. The former of these runs in northerly, and is considered a good fishing place, as it is clear of dangers, and has a good depth of water, from 17 to 10 and 8 fathoms; the eastern shore is bold-to, and at the further end of the cove there is a small run of water, which extends about 2 miles to the northward.

English Harbour is situated at the south-eastern entrance of Salmon Cove. It is a clean bay, where you may ride in 4 and 5 fathoms water. From hence the coast rounds to the eastward to the Horse-Chops, a distance of more than 3 miles, and is all high land, steep-to, and without danger. To the north-eastward of the Horse-Chops is Green Bay, open and entirely exposed to the southward, and having at the eastern part of it a small sandy beach with a rivulet of water: this place is little frequented, and is neither convenient for ships to fish or ride in. When you have passed this bay, there is no sheltering cove or place until you reach Ragged and Catalina Harbours.

Ragged Harbour is so named from the rough and craggy appearance of the surrounding rocks, which render it unsafe for either boats or ships to enter; but for those who intend going there, we will observe, that they must go to the northward of the reef of rocks at its entrance, running on North, until the harbour comes quite open, then you steer in between the Round Island near the main, and a large black rock, being the outermost of the ragged ones before mentioned; sail on until you are to the westward of them all, or until you get the south head of Catalina to appear between the westernmost rock and the main, when you may anchor. A river of good water is at the head of the harbour.

CATALINA HARBOUR is nearly 2 miles to the northward of Ragged Harbour. It is a good harbour for small vessels, and may be known by a singular green island at the south point of its entrance, nearly half a mile to the north of which are the Brandy Rocks, a ledge over which the sea frequently breaks; you may go on either side of these rocks, giving the little island a berth, or with a leading wind between the island and the main, though this passage is exceedingly narrow, in 4 and 5 fathoms. Just within the entrance of the Harbour is Charlton Rock or Shoal, lying nearly mid-channel, over which are only 6 feet water; you must avoid bringing the north point of Green Island on with Burnt Head, the south point of the harbour, for that will carry you right upon the rock. There is a passage between the island and the rock, and also between the rock and the north shore, only steering nearer the main about two thirds over.

LITTLE CATALINA BAY lies inwards on the southern side. From Catalina Harbour to Little Catalina the course is about N.E. $1\frac{1}{2}$ miles; and thence to the north head of the bay, E.N.E. a little easterly, $3\frac{1}{2}$ miles. When within the harbour you may anchor close to the shore in 4 and 5 fathoms, land-locked; or to the southward of the little green island in $8\frac{1}{2}$ fathoms, or by running up 2 miles farther obtain fresh water. In the S.W. arm or branch of the river, where there is anchorage in 5 fathoms, the harbour runs westerly. Sometimes the water in this harbour will suddenly rise 3 or 4 feet, then fall again, and in certain seasons it will often do so two or three times in 3 or 4 hours. It abounds with salmon, and the herb *Alexander* grows luxuriantly on the little island. Near a small cove at the N.W., is a sort of mineral, of a glittering nature, generally called Fire-stone. Excellent willicks may be found on the rocks.

The course from the south to the north head of Catalina is N.E. $\frac{1}{2}$ E., $5\frac{1}{2}$ miles, and between them from 12 to 5 fathoms water may be found. The whole way is a kind of broken ground, over which, in blowing weather, the sea breaks very high.

From the north head of Catalina to Flower Point, the course is N.N.E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ miles; and one mile to the eastward of the point lie some sunken rocks. You may go between Flower Point and these rocks, in six fathoms water, but it is more advisable to pass on the outside of them; this you will readily do by bringing Gull Island open of Spiller's Point, or by keeping the south head of Catalina open of the north head.

BIRD ISLAND. From Flower Point to Bird Island is 3 miles. Within Bird Island is a small bay where ships can occasionally ride, in one branch which runs up

FROM CAPE BONAVISTA TO CAPE FREELS.

towards the west, and in the other, amidst some rocks which are above water. Bird Island Bay extends so far as Cape L'Argent.

From Flower Point to Cape L'Argent is $3\frac{1}{2}$ miles; it is rather a low rocky point, having also a large rock above water lying off it.

From Cape L'Argent to Spiller's Point is $1\frac{1}{2}$ miles; between these two points the lead falls into very deep water. Spiller's Point is steep and bold-to, but not very high, with a rock above water near it; over the point you may discern the high land of Port Bonavista a great way off at sea.

From Spiller's Point to Cape Bonavista the course is N. $2\frac{1}{2}$ miles; there is a deep bay between, which might be mistaken for the harbour of Bonavista, from the head of which it is only divided by a neck of land, 2 miles over, and from Red Head Bay it is not above a musket-shot.

FROM CAPE BONAVISTA TO CAPE FREELS.

CAPE BONAVISTA is situated in lat. $48^{\circ} 43' N.$, and long. $55^{\circ} 5' 30'' W.$, and appears at a distance of a bluish or sky colour; it is a steep rocky point, having 4 fathoms close to its base.

A revolving light, showing a red and white light alternately, is situated on Cape Bonavista. It is elevated 160 feet above the level of the sea, and, kept open of Spiller's Point, will keep vessels clear of the Flower Rocks.

About half a mile N.N.E. from the extremity of the cape lies Gull Island, which, though small, may easily be recognized, as it is of moderate height and elevated in the middle, and makes something like a round hat with broad green brims; it is visible 4 or 5 leagues off, when the weather is clear. N.N.E. $\frac{1}{2}$ E. distant $3\frac{1}{2}$ miles from Gull Island, is the Old Harry Rock, of only 18 feet water, from which a reef or bank extends to the N.E. nearly 8 miles, having several dangerous spots upon it, of only 18 feet and 8 or 4 fathoms; the outer edge of this danger is named the Young Harry; at its northern extremity are 10 fathoms water, and a little farther off 45 fathoms. Between the northward of the middle ground of 18 feet, are 12, 20, and 60 fathoms; to the southward, to the southward, and between it and the Old Harry, 20 and 31 fathoms. At the north part of the Old Harry are 11 fathoms; to the westward 30 fathoms; to the S.W. 9 fathoms; and a little farther S.W. 57 fathoms. Abundance of fish are caught by the boats which frequent this bank, but it is very dangerous for shipping. The sea commonly breaks over Old Harry, unless in fine weather and the water be very smooth, but the other parts of the shoal show themselves only in, or immediately after, heavy gales on the shore.

In order to avoid the Old Harry, Gull Island should be brought on with the Green Ridge, which lies considerably inland; but you must be cautious, for this mark will carry you too close to the Young Harry. Captain Bullock says:—"Vessels running along shore, to avoid these rocks, must be careful in keeping Cape Bonavista open with the westernmost extremity of a high range of land to the southward, called the Inner Ridge; these dangers, together with the long ledge, named the Flower Rocks, already noticed, render it very imprudent for a mariner to attempt making land hereabout in thick or boisterous weather; indeed, at any time, the Island of Bocalien is the best and safest land-fall for the stranger that is bound to any part of Bonavista Bay."

BONAVISTA BAY.—This extensive bay is limited by Cape Bonavista on the south, and Cape Freels on the north. The bearing and distance from one to the other are N. $\frac{1}{2}$ E. and S. $\frac{1}{2}$ W., 37 miles. The whole coast between is tortuous or much indented, rocky, difficult, and dangerous. On the south, the land is high and mountainous, and the coast steep and iron-bound; on the north side it is low and marshy, and from the shore the water is shoal to a considerable distance. The bay abounds with small islands, and is encompassed with dangers on every side. The harbours, sounds and inlets, are deep, extensive, numerous, well sheltered, and safe; but they are generally so deeply embayed, the passages into them so intricate, and the surrounding land so similar in appearance, that their navigation is seldom attempted, unless by those who, from long experience, have a perfect knowledge of the coast; yet should it become necessary, from stress of weather or other circumstances, for a

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FROM CAPE BONAVISTA TO CAPE FREELS.

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stranger to seek shelter, the places recommended for this purpose are, Barrow and Great Chance Harbours, in the S.W. part of the bay, or New Harbour and Cat Cove on the N.W.; but the extreme narrowness of the entrance to New Harbour is a great impediment, and renders Cat Cove the more preferable.

PORT BONAVISTA.—From Cape Bonavista to Port Bonavista the course is to the south-eastward about $3\frac{1}{2}$ miles. Vessels steering for this port may pass between Gull Island and the cape, or between Gull Island and the Old Harry Rock, or to the northward of the Young Harry altogether. The passage between Gull Island and Bonavista is about three-quarters of a mile wide, and both the cape and island are steep-to, having 4 fathoms close to each side, and 16 or 18 fathoms mid-channel; but it will be advisable not to go too near Gull Island, on account of a rock under water, which lies about 300 yards off the south-eastern part of the island. When you have passed through this channel, and find yourself to the westward of the cape, you will see Green Island, distant about half a mile from the cape. Large vessels commonly leave Green Island on their port side in their course to Port Bonavista, going between Green and Stone Islands, where the channel is fully $1\frac{1}{2}$ miles wide, and with 12, 16, and 18 fathoms water in it, and no danger except a sunken rock of 3 fathoms water, which lies about 200 yards to the north-eastward of Green Island; or they may go to the westward of Stone Island, and run to the southward till they open the Harbour of Bonavista, and are past Moses Point, and so to the southward of the rocks called the Swerrys, which are high rocks, having no passage to the northward of them. Here you may anchor in from 10 to 8 fathoms, as you please, but you must always have a good anchor in the S.W., and another fast in the Swerrys, or in the N.W., for westerly winds blow directly into the road.

Small vessels may go between Green Island and the main, and so to Red Head; but the bay between the points (over against Green Island) and Red Head, is all foul ground. About a mile to the south-eastward of Green Island is a reef named the Red Rocks, lying off Red Cove. You may go between these, and the land into Red Cove, as there are 6 fathoms water, and in the cove 4, 4, and 3 fathoms, but the ground is all foul. There is a passage also to the southward of these rocks, and between them and Western Head, in which are 6 fathoms. There is a small rock under water, a little to the eastward of Western Head, which lies about a cable's length from the shore, and the sea commonly breaks over it, but boats can go between it and the shore. To the southward is Red Head, or Point, and farther on is Moses Point; between is a large bay or cove, named Bayley's Cove, where you may anchor on occasion, not advancing too far in, as all its shore is rocky and shoal.

Bonavista Harbour is an anchorage of little consideration, farther than being an eligible situation for carrying on the fishery, being so very badly sheltered that, in N.W. gales, immediately following a continuance of heavy winds from seaward, the water breaks right athwart the harbour, and sometimes the whole of the fishing-boats founder at their anchors, and not unfrequently many of their stages are destroyed; however, vessels, during the summer months, moor under Swerry Head, in 6 or 10 fathoms; but even there, as in every other part of the harbour, the ground is very rocky and uneven.

BLACK HEAD BAY is situated 5 miles W.S.W. $\frac{1}{2}$ S. from Cape Bonavista, and Southern Head is 11 miles W. $\frac{1}{2}$ N. from Cape Bonavista. Southern Head and Black Head form the two extremities of Black Head Bay, and bear from each other E.S.E. $\frac{1}{2}$ S., and W.N.W. $\frac{1}{2}$ N., at a distance of about 7 miles. On the S.W. side of this bay, at about $3\frac{1}{2}$ miles to the southward of Southern Head, is the fishing-establishment at King's Cove; but this is even a less desirable place of shelter than Bonavista, as it lies directly open to seaward, and has a foul bottom.

From Southern Head to Western Head the distance is $3\frac{1}{2}$ miles, the coast between forming five coves, at the second of which, Keels, is a fishing village; but neither this nor any of the other coves are fit places for vessels of burthen.

From Western Head the lead bends W.S.W. $\frac{1}{2}$ S., and leads to numerous coves, bays, and arms of the sea, most of which have deep water and places of anchorage. We shall here enumerate the principal of these, with their respective situations; but, as many of them are too deeply embayed for general navigation, we shall not extend our directions to a minute or particular description of them all, but confine ourselves to such only as are situated in prominent parts of the bay, and are mostly fitted for general use, and commonly frequented.

FROM CAPE BONAVISTA TO CAPE FREELS.

Plate Cove is situated on the coast about $1\frac{1}{2}$ miles distant from Western Head; its entrance, between Arrow Point and Plate Cove Head, is three-quarters of a mile wide, from whence it bends in more than a mile to the southward. At its eastern extremity is a run of fresh water, but the bottom is foul and rocky; it is therefore not much frequented.

Indian Arm lies about S.W. by W. from Plate Cove Head, distant 3 miles; it is a narrow inlet running in nearly S.W. about 2 miles, and terminates in a rivulet of fresh water.

Southward Bay is separated from Indian Arm only by a narrow neck of land, and is an extensive branch of the sea. Its entrance, between Red Head and Kate's Harbour Head, is fully a mile wide, with 30, 50, 80, and 90 fathoms water in mid-channel: from hence it bends to the south-westward $2\frac{1}{2}$ miles, becoming narrower as you advance, but with deep water and no danger. On the western side there is an opening named Hayes Cove, which lies about 2 miles from Kate Harbour Head.

Vessels intending to seek either of these places, must beware of the Bacon-bone Rock, a danger of only 18 feet water, which lies W. $\frac{1}{2}$ N., distant a mile from Western Head, and directly in the fairway of the navigation. To avoid this danger, do not shut in Southern Head until Little Denier comes on with the outer Shag Island.

Kate Harbour lies to the westward of Plate Cove; its entrance is three-quarters of a mile wide, and the harbour runs in about $1\frac{1}{2}$ miles, with a depth of water of 36, 20, and 27 fathoms in mid-channel, decreasing as you advance to the farther end. There is a rock under water off its entrance with 7, 8, and 9 fathoms round it, which lies nearer to Kate's Head, but there is a passage between them, and also a still wider channel on the western side of the rock.

Sweet Bay is another extensive inlet, lying to the westward of Kate Harbour, the entrance to which is between Outler's Head and Chance Point, which entrance also leads to Maidenhair Cove, and Little and Great Chance Harbours. Sweet Bay is the easternmost inlet. Having entered it, and passed Outler's Head, which is rocky and steep-to, you will see Turfpook Island, which is small and narrow, and has at about half a mile to the south-west of it an island named Woody Island, and between them a rock under water; there is a passage on either side of these, and when you get beyond Woody Island, the bay becomes about three-quarters of a mile wide, with 60 fathoms water midway; advancing still farther you will observe several islands in your passage; there is also a rock under water on your starboard side, three-quarters of a mile beyond Woody Island; it lies abreast of a little island which is in mid-channel; farther on is Wolf Island, between which and the main there is no passage; off this lies Gooseberry Island, between which and Wolf Island there are 30 fathoms water, but the channel is narrow, and that on the eastern side of Gooseberry Island is much wider. Sweet Bay here divides into two branches; that to the eastward is named the S.W. arm, and has directly before its entrance Hunt's Island, the channel to the eastward of which has 10, 12, and 14 fathoms water, and that to the westward 7 and 9 fathoms; and, having done so, will drop into 24, 22, and 30 fathoms water; the head of the arm is foul and rocky. The N.W. arm is divided from the S.W. arm a little below Hunt's Island, and at the farther end of Wolf's Island is nearly a mile wide, from whence it runs south-westerly $2\frac{1}{2}$ miles, with a good depth of water, and clear of dangers; at the bottom is a sandy beach and a small rivulet.

The entrance of Great Chance Harbour, which is an excellent anchorage, lies $2\frac{1}{2}$ miles W. $\frac{1}{2}$ S. from Western Head. The passage to it is clear with the exception of the Bacon-bone Rock, already mentioned. In sailing for this place the safest way is, not to shut in Southern Head until the isle named Little Denier comes on with the outer Shag Island. Thus the Bacon-bone Rock will be avoided, and you may steer for the harbour W. by S., until you get abreast of Chance Point. You must now guard against a sunken rock, at the southern part of the entrance, with only 6 feet of water over it. Within this rock, and in a line with it, are two islets named the Mustard-bowl; in order to avoid the rock, be careful not to shut in the western Mustard-bowl with the eastern, but, having passed the latter, you may stand boldly in, approaching the shore on either side as you please; and you may anchor anywhere above the narrows in from 11 to 5 fathoms, perfectly land-locked and good holding-ground. Wood and water may easily be procured here.

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At the distance of almost a mile, N.E. a little northerly, is the Chance Gull Rock, steep-to, and almost visible. To the westward is Deer Island, 1½ miles long, but narrow, between which and the main there is a good channel to Chandler's Reach.

Chandler's Reach is the channel leading to Goose Bay and Clode Sound; the course through it is W. ½ S., which, from the N.W. point of Deer Island, will take you to Connecting Point, the point of the peninsula that divides the former from the latter.

Goose Bay runs in south-westerly, about ¾ miles, and by keeping in mid-channel you will meet with no danger, but have 47, 40, and 36 fathoms water, until, having passed Lubber's Hole, the depth decreases to 12, 13, 10, and 8 fathoms, when you will see a small island, situated to the westward of Goose Head; behind, and to the westward of this, you may anchor in from 4 to 7 fathoms, or farther to the southward in 5½ fathoms. In most of these inlets you will lie perfectly safe, and entirely land-locked. Fresh water and wood are plentiful, and easily obtained.

Clode Sound is a fine branch of the sea, running in from Chandler's Reach full 20 miles; it has many places of very good anchorage, and is without danger. Vessels may find perfect safety on the northern shore, at Brown's Cove, or farther in at Long Cove, or Platter Cove; or on the southern shore, at Bunyan's and Love Coves; or, passing the Platter Rocks, and steering westward, at Freshwater Cove. The mid-channel has all the way deep water, and there are no rocks except, as in Goose Bay, near the shores.

Lion's Den is an opening lying to the N.W. of the entrance of Chandler's Reach. To enter it you must sail to the northward of the Deer and Cluster Islands, and pass the narrow, which is about one-third of a mile wide, and has 24 fathoms water in it; having passed the entrance about a mile, there is a sunken rock, round which are 4, 6, and 6 fathoms; you may then perceive the inlet to branch off into two divisions; that to the N.W. is very narrow, and has a rocky islet at its entrance; but that which runs to the S.W. is broader, and has 11, 14, and 10 fathoms water in it; it runs in from the sunken rock about 1½ miles, and at its farther end becomes shoal, narrow, and rocky.

The Long Islands are four in number, having narrow channels between them, some of which are encumbered with rocks and consequently dangerous. The eastern island is the largest and broadest, the next to it is the longest, the two western ones are smaller and narrower; they form the northern boundary of the passage from Western Head to Chandler's Reach, and also the southern boundary to Swale Tickle and Newman's Sound. Off the north-eastern point of the largest of the Long Islands lies a sunken rock, close to the land, and therefore easily avoided; this point bears from Western Head nearly W. by N. distant 6 miles.

NEWMAN'S SOUND is a large arm of the sea, running in W. by N., having at its entrance Swale Island, which is nearly 4½ miles long, and not one broad in the widest part; this divides the entrance into two channels; the southern passage is called the Swale Tickle, and the northern one goes by the general name of Newman's Sound. To sail from abreast of the Western Head into the Swale Tickle, you should steer W.N.W. ½ W. To sail from abreast of the Bonavista Gull Island, steer W.N.W. ½ W. 24 miles, and it will carry you a little to the southward of Little Swale Island, and in the fairway of the passage; but in advancing through this channel there are several obstructions, and the passages from thence into Newman's Sound are so narrow, that it will always be advisable to go to the northward of the Great Swale Island. To do this, having rounded the Gull Island, steer W.N.W. ½ W. 23 or 24 miles; when you will have the sound open, and can proceed accordingly; it is full 1½ miles wide, and extends nearly in a W. by N. direction from the N.E. point of Swale Island 11 miles, having several places of good anchorage. Those on the southern shore are South Broad Cove, Minchin's Cove, and Stanford Cove.

South Broad Cove is situated 2½ miles beyond the western point of Swale Island, and is a place of great safety. The passage in is to the south-westward, and you will ride well sheltered in 10 fathoms, free from any danger. There is a small island at the entrance, which you will leave on your port side.

There is a long narrow point of land running out to the northward, which you will round, and turning southeasterly, Minchin's Cove will appear open; here you will lie in &

fathoms, opposite a sandy beach. To the westward is Mount Standard, off the point of which lies a small island, reaching half-way over the passage, making the channel in this part very narrow. The best course through, is to the eastward of this island, in 9 fathoms; here an opening appears to the eastward, called Buckley's Cove, fit for small vessels: the coast now winding to the westward, forms a broad bay, with 20, 26, and 27 fathoms water in it, free from any danger, and shallowing on each side towards the shores. At the south-western part of this is Standard Cove, having a sandy beach, the approach towards which shallows gradually.

Barrow Harbour.—Little Denier Island lies off the entrance of Barrow Harbour, which lies south westward of it, and is safe and convenient. It is formed by three islands, Richard's, Goodwin's, and Keat's; and the entrance is that part between Goodwin's and the main, and is about 500 yards wide, and not very difficult of access. The harbour is a mile long: the lower part is rocky, and not well-sheltered, but the upper part is completely land-locked, and has good holding ground. The course to this place from Gull Island, off Cape Bonavista, is N.W. by W. $\frac{1}{2}$ W. about 22 miles. In coming from the northward, the course from the Eastern Gooseberry Rock towards Barrow Harbour, will be S.W. $\frac{1}{2}$ W., 18 miles. Gooseberry Rock appears just above water, and lies in lat. $48^{\circ} 57'$ north. In this course you will have to avoid the Malone Rock and Ledge, the latter being a shoal, lying S. $\frac{1}{2}$ W., distant a mile from the rock, which is always above water. This shoal has never less than 4 fathoms over it, so that, in fine weather, no damage whatever is to be apprehended.

On approaching Little Denier, you must be careful to avoid the Outer Rock, lying three-quarters of a mile E. $\frac{1}{2}$ N. from that island. It has only 4 and 6 feet of water on it; but as the sea constantly breaks, it is easily guarded against. Between Little Denier and Richard's Island, there is also a range of rocks, called the Brandishes, at distances from each other, and extending nearly half way over towards Little Denier, with from 14 to 17 feet upon them; between are channels of 7 and 8 fathoms. These make the northern channel preferable for strangers without a pilot. To run clear of the Brandishes, you must keep Wedge Point, (the projection within the harbour,) a little open to the southward of Smoky Ridge, (a range of high land at the top of the harbour), until you bring Broom Head on with the middle Shag Island; the passage is then without obstruction till you near Wedge Point, off which, at 70 yards, lies a sunken rock, with 8 feet of water; you may then sail up abreast Pudner's Cove, until you are entirely shut in from the sea, and anchor in from 10 to 18 fathoms. Some vessels prefer anchoring in Garland's Creek; but without running well up, the ground is foul. There is a small fishing-establishment here; good water may be procured in Pudner's Cove, and abundance of fire-wood. The land about Barrow Harbour is higher than the neighbouring coast, and may hence be easily recognized.

Sandy Cove, on the north side of Newman's Sound, about 4 miles beyond Barrow Harbour, has good anchorage. It will be readily known, having the only sandy beach on this side of the sound; there is no danger in entering it, and it is perfectly safe, the depth of water being from 10 to 20 fathoms. Between this place and Barrow Harbour lies the Half-way Rock above water, but if you keep outside, and pass to the southward of it, there is no danger, it being steep to in 4 fathoms.

At a mile westward from Sandy Cove, are Great and Little Adventure Coves, two snug little places on the same side of the sound, but which, from the narrowness of their entrances, are adapted only as a resort for small vessels. Between these places lies a sunken rock about 80 yards from the shore, with only 4 feet of water on it. Sydney Island lies off the entrance to Great Adventure Cove; the passage in is to the northward of this island, for between the island and Harbour Head there is no passage.

North Broad Cove lies also on the northern side of Newman's Sound, and is a convenient well-sheltered anchorage; its entrance may be known by a high round island lying on the west side of it, named Black Duck Island. On sailing in you must keep the island on board, until you make a tickle or inlet, between it and the western shore, in order to avoid a sunken rock at the eastern side; after which keep as close as possible to the eastern shore, as a dangerous rock lies nearly in mid-channel; being inside of which you may anchor in from 10 to 25 fathoms, muddy bottom. Wood and water may be procured here.

There are some dangerous rocks lying off the northern shore, in advancing farther up Newman's Sound, one of which is called the Flag Rock, and lies three-quarters of

a mile beyond Black Duck Island; and a mile farther on is the Hall's Rock. These rocks are under water, and distant about a cable's length from the land; close to them are 4 and 5 fathoms, and between them and the shore there is a passage of 6 and 7 fathoms; the northern shore, therefore, should always have a good berth in sailing up Newman's Sound, for by keeping nearly half a mile off, you will avoid them all.

SALVAGE BAY lies on the northern side of the promontory, which divides it from Newman's Sound. Within it are several runs of fresh water, but no place of good shelter.

The little island named Ship Island lies in latitude $48^{\circ} 45'$, longitude $55^{\circ} 37' 30''$, and at 8 leagues N.W. $\frac{1}{2}$ W. from Cape Bonavista; and Damnable Harbour lies W. $\frac{1}{2}$ S. $\frac{1}{2}$ miles from Ship Island. Ship Island may be known by a remarkable bald point like a sugar-loaf. The harbour is well adapted for small vessels, but its very narrow entrance disqualifies it for ships of burthen; there is a rock off the southern part of the entrance, and another off the northern side of the island, which lies in the middle of the harbour. There is good anchorage all round the island, in 4 to 5 fathoms, sandy bottom. Water may be easily procured, but very little wood.

Between Damnable Harbour and Salvage Bay are several small islands and rocks; the largest of these is named the Baker's Loaf, and is a narrow island, about three-quarters of a mile long.

In sailing from Gull Island, Bonavista, to Damnable Harbour, steer W.N.W. $\frac{1}{2}$ N., about 7 leagues, and round Shag Islands; proceed thence to the northward of the Baker's Loaf, or steer N.W. by W. from the Gull towards Ship Island, and then W. $\frac{1}{2}$ S. from Ship Island to the entrance of Damnable Harbour.

Morris Cove is a safe anchorage, situated on the north side of the island bearing that name, and lies to the northward of Damnable Harbour. In sailing for it keep Ship Island well on board, on account of a dangerous reef which extends from Flat Islands nearly two-thirds of the way towards Ship Island, on some parts of which are not more than 17 or 18 feet. Proceed, therefore, to the northward of Ship Island, passing at not more than half a mile distance, and when you are well inside, avoid shutting in Lackington Rock with Varket Island, (known by its forming two remarkable hummocks,) as there are several clusters of rocks between Ship and the Horse-chop Islands on the south side. Steer for the Varket until you get abreast of Lackington Rock, then keep Lackington Rock on the northern extremity of Ship Island, until the Varket bears north, to clear two sunken rocks off the N.E. end of Morris Island. You may then sail directly for the cove, which you can enter without fearing obstruction, and anchor in any part of it, in 25 to 5 fathoms; but the western side of the cove is preferable. Wood is plentiful, but water is scarce in the summer season.

Bay of Fair and False may contain several good anchorages, but it is so filled with small islands and rocks, that any description that could be given would be of no use to the mariner. A cluster of large islands extends off the frontage of this bay, fully 20 miles, or so far as Offer Gooseberry Island, having between them innumerable passages, with deep water. There is also a wide channel, running from Fair and False Bay, and Morris Island, to the northward, which leads to Bloody Bay, and then turns westward, and is divided into various branches, forming the N.W. arm, the middle arm, and the N.E. arm; this latter being a peculiar and extensive channel, running in one direction, southward, almost to Newman's Sound, and in another, almost to Damnable Harbour; all these are navigable, and afford places of good anchorage, and plenty of both wood and water.

There is also an open strait from Bloody Bay to the eastward, through Bloody and Cottel's Reaches, and out to the northward of Offer Gooseberry Island. Other channels branch off to the northward from Bloody and Cottel's Reaches, and between the Lakeman's Islands running into Pitt's Sound, Locker's and Content Reaches, and thence to Freshwater Bay. Within these, and on the northern shore, are Hare, Locker's, Trinity, Indian, and many other lesser bays, coves, and inlets, abounding with good anchorages, and calculated to afford shelter for shipping of all descriptions, in case of necessity. These are, at present, but little known, and frequented only by the constant traders; we shall, therefore, proceed to those which are the usual places of resort, and are better situated for the purpose of fishing.

GOOSEBERRY ISLES.—The Gooseberry Isles are a cluster of islets, near the middle of Bonavista Bay. The Offer or Outer Gooseberry is in latitude $48^{\circ} 55'$

FROM CAPE BONAVISTA TO CAPE FREELS.

80° N., longitude 58° 30' 30" W. From Cape Bonavista, to sail clear of the Eastern Rock, which lies at $1\frac{1}{2}$ miles to the E.S.E. of the Offer Gooseberry Isle, the course is N. by W. $\frac{1}{2}$ W. and from thence to Copper Island, (at the mouth of Greenspond Tickle,) N. $\frac{1}{2}$ E.; here it is possible to obtain pilots for this and the adjacent anchorages, which are North-West Arm, New Harbour, and Cat Cove. There is good holding ground between Greenspond Island and the main, but the water is so deep that a vessel is liable to drift on shore in the act of weighing, nor is there sufficient room to veer to a lengthened cable in heavy gales from the S.W., to which quarter it is much exposed. The course to Barrow Harbour from the eastern Gooseberry Rock is S.W. $\frac{1}{2}$ W. 18 miles: you thus avoid Malone's Ledge, a shoal lying S. $\frac{1}{2}$ W., one mile from the rock, (above water,) which bears the same name: it has never less than 4 fathoms, so that, in fine weather, no danger need be apprehended.

Ships coming from the eastward, or round Cape Freels, have to avoid the Charge Rock, which lies S.E. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles from Cape Freels' Gull Island; the rock has only 6 feet of water upon it, and is circumscribed by a large spot of rough fishing ground, having from 8 to 30 fathoms. From Gull Island, off Cape Freels, you may run immediately for the Stinking Islands, taking care not to open Cape Freels to the eastward of the Gull, as this will carry you inside the danger. Keep a good look for the Mid-rocks, which are just above water, and lie 3 miles to the N.N.E. $\frac{1}{2}$ E. from the Stinking Islands; but a vessel not bound up the bay, is enjoined to keep well outside of them all, for should the weather become suddenly thick and foggy, (which occurs frequently with an easterly wind,) you will run a great risk of getting bewildered among the innumerable rocks for which this part of the coast is remarkable, and from which neither chart nor compass can direct the stranger. Three quarters of a mile N.W. from Gull Island is a rock with 3 fathoms of water upon it.

In the winter months, when the north-easterly gales are very heavy and continuous, the sea breaks exceedingly high over several spots of the Stinking Banks, which lie E. by N. $2\frac{1}{2}$ miles from the Stinking Islands. In two places there are as little as 7 fathoms on these banks, and, in such weather, although a vessel would not strike, she would be in very great danger of foundering in the tremendous sea which would be apt to break over her; but in fine weather no danger from them is to be apprehended.

Having rounded the Stinking Islands, and wishing to sail into New Harbour or Cat Cove, steer directly for the Offer Gooseberry Island, S.W. by W. $\frac{1}{2}$ W. until you bring Pouch and Flower Islands to touch each other; you will be then 3 miles outside the three rocks which lie at $1\frac{1}{2}$ miles to the southward of Flower Island. The outer of the three rocks has on it 3 fathoms of water, the middle 14 feet, and the inner only 11 feet. Now alter the course to W. $\frac{1}{2}$ S., keeping the white face of Chalky Hills, in Locker's Beach, a little on the starboard bow, which will carry you clear of Copper Island dangers, lying without Shoe Cove Point; and should the roughness of the weather prevent you getting a pilot on board thereabout, you may continue this course until you bring Shoe Cove Point (which may be distinguished from its bearing a semblance to white marble) to bear N.W. $\frac{1}{2}$ W., when you may shape your course for Indian Bay W.N.W.

New Harbour is 2 miles to the westward of Shoe Cove Point. With easterly winds it is quite inaccessible, from its narrow entrance; in which case you must continue onward for Cat Cove, lying 4 miles farther up the bay on the same side. Cat Cove is formed by Cat Island, and may be easily recognized, the island being the only part in the vicinity that is covered with live woods, the surrounding forests having been destroyed by conflagration. On steering for this place proceed between Silver Hair and Brown Fox Islands and main, and as you approach the latter, the channel narrow, and you keep Cat Island open on your starboard bow. Off the upper part of Cat Island lie two high green rocks, which you must round, the passage formed by them being too shoal to pass between; you may then run till you get some distance inside the upper point of the island, and anchor in from 5 to 12 fathoms, with the haws open to N.W., the winds from that quarter being in general most heavy and squally. In working in, you may stand close to either shore, except off the point of the island, as there is a sunken rock within 100 yards of it, with not more than 10 feet of water.

North-West Arm, in lat. 49° 7' N., is the best anchorage near Cape Freels, but its access is not without difficulty; from the multiplicity of islands that lie in the neigh-

bourhood, and which are almost undistinguishable from their great similarity. The greatest danger you have to encounter, in making this place from the southward, is the Northern Rock, which lies N.E. $1\frac{1}{2}$ miles from Copper Island (known by its height and without wood); it has never less than 22 feet of water upon it; so that, in fine weather, vessels which generally frequent this coast may pass over it in perfect safety; but, in hard gales, the sea breaks over it incredibly high. To avoid it, be careful not to open Fool's Island, at the entrance of N.W. Arm (which is somewhat higher and more prominent than the rest, and is covered with trees, except the crown), to the westward of the Western Pond Rock, until you bring Butterfly Island to touch the inner point of Flower Island, or until Puffin and Copper Islands touch each other; then, leaving the Pond Rocks on the starboard hand, steer in for Fool's Island, which it is advisable to keep well on board, as there is a sunken rock lying exactly in mid-channel, between it and Partridge Island Rocks, with 18 feet upon it; to clear which, it is impossible to give a descriptive mark. The course then into the Arm is N.W. $\frac{1}{2}$ W., and as soon as you get inside Odd Island, you may anchor in muddy ground with from 7 to 9 fathoms, Fool's Island Hill bearing S.E. to S.E. by S. During the dry summer months, vessels are compelled to send to Loo Cove for water, nor is wood to be procured on this part of the coast within the distance of 13 miles.

Greenspond Tickle is a small harbour on the south-eastern side of Greenspond Island. The island is about a mile in breadth each way, and a reef of rocky islets runs off the southern part of it, all the way to Puffin Island. The harbour is of very little importance, not being capable of receiving vessels whose draught of water exceeds 14 feet; its dangers are the Northern, the Cook-room, and Harbour Rocks, but it is impossible to get in with a foul wind, or even with a fair one, without a pilot. Ships sometimes anchor between the island and the main; but the place is contracted, and the water is very deep, and it is much exposed to S.W. winds, so that it cannot be recommended as a place of safety. To sail into it, you must pass to the westward of Copper Island, in doing which you must cautiously avoid the Midsommer Rock, which lies one mile off W. by S. $\frac{1}{2}$ S. from that island, and has only 6 feet water on it; when you shut in Silver Hair Island with Shoe Cove Point, you are inside the danger. You should also give Newalls and Ship Island a wide berth, as the water shoals off them to a considerable distance.

CAPE FREELS TO CAPE NORMAN.

CAPE FREELS is formed of three points, the South Bill, the North Bill, and the Middle, or Cape Freels, about which there are many shoals and rocky dangers; therefore, a wide berth should be given them at all times. Over these points is some high land, commonly named the Cape Ridge, which is visible at a considerable distance.

About $6\frac{1}{2}$ miles N.N.W. $\frac{1}{2}$ W. from Cape Freels, is the Outer Gat Island, which is connected to the main by a sandy reef, impassable for shipping, and forming the southern point of Deadman's Bay. A little before you come to the Outer Gat, you will see a remarkable hill named the Windmill Hill, and near it the Little Gat Island. In sailing to or from Cape Freels, the shore should have a good berth, although there are soundings all the way, decreasing gradually towards the shore. Deadman's Bay is formed by the Outer Gat Island to the southward, and Deadman's Point to the northward; the soundings within it are regular, and there are no rocks, except those close to the shore, but it is totally unsheltered, and open to all easterly winds.

PENGUIN ISLANDS.—Having passed Deadman's Point, you will approach the Penguin Islands, two in number, bearing from Cape Freels N.N.W. $\frac{1}{2}$ W. distant 14 and 16 miles. Between them the passage is clear, with from $5\frac{1}{2}$ to 7 fathoms water, but vessels should not go within them and the shore, for there are several rocky reefs which render it particularly dangerous.

FUNK ISLANDS.—The Funk Islands which lie N.E. $\frac{1}{2}$ E. from Cape Freels, distant 31 miles, are a little group of rocks, just above water. The largest of them is not half a mile long, and cannot be seen farther than at the distance of 10 or 12

CAPE FREELS TO CAPE NORMAN.

rales; but it will always be distinguished by the great number of birds continually hovering over it. About 200 yards north of the largest Funk Island is a large rock above water; and N.W. by W. 180 yards from this are still larger rocks; they are all barren, and only the resort of sea birds, that inhabit and breed there. Between these rocks are 18, 37, and 43 fathoms water, with a clear passage; but between the eastern rock and the largest island there is a dangerous sunken rock, of only 10 feet water, over which the sea generally breaks; near this sunken rock are 14 and 16 fathoms, and between it and the largest island 30, 25, 36, 38, 24, and 17 fathoms. Off the western point of the largest island are some rocks, and at its eastern part a sort of creek with 5 fathoms in it. A ledge of rocks is reported to lie S.W., from Funk Island, at the distance of 7 miles. A Correspondent of the *Nautical Magazine* writes: "About which they (a party of seamen on the island) observed a great number of shoals, which were counted, and found to amount to 23, continuing nearly round the island, a small arc of 33° 45' only (from W. by N. to N.W.) being clear. Upon a close observation, the principal of these shoals, and the most dangerous, as being furthest from the island, and therefore less liable to be apprehended, was seen to break about 2 miles from the shore, bearing S.W.; the rest showing an almost continual breaking three miles in extent from the island."

Between Funk and Wadham Islands a dangerous rock was discovered on the 28th September, 1836, during a gale and very heavy sea, by Captain Evan Percy, in the brig *St. John*. Heavy breakers were distinctly seen upon a rock bearing W. $\frac{1}{2}$ S. a little southerly, about 7 miles from the Funk Islands. The bearing was taken in a fine clear evening, and it was the opinion of all on board that the rock, though not appearing above water, would take up any vessel. The position given to it is about latitude 49° 41', longitude 53° 18' W.; but the channel between Wadham and Funk Islands must be cautiously used, as the exact position of this rock cannot be depended on.

A rock is said to lie $\frac{1}{2}$ miles N.N.W. from Funk Islands, and a shoal, named the *Cleopatra*, is said to lie N.W. by W. $\frac{1}{2}$ W. 20 miles from Funk Islands, and about 11 miles to the eastward of Fogo Island; but both these latter positions are doubtful.

Durel's Ledge, or Snap Rock, is a dangerous reef, said to lie about 7 leagues N.W. by N. from Funk Islands, and to cause the sea to break over it continually. Nearly N.W. by W. distant 3 leagues from Durel's Ledge, is another danger named Cromwell's Ledge, which is supposed to bear E.S.E. $\frac{1}{2}$ E., distant 10 or 11 miles, from Little Fogo Islands.

RAGGED HARBOUR.—This harbour lies to the north-westward of the Penguins, distant 6 miles. The mainland hereabout is low and sandy, and the passage from the eastward rocky and dangerous; it should therefore not be attempted by a stranger, or without a pilot. To the north-westward is Ladle Cove Island, and 7 miles beyond that is Rocky Bay, which lies in about latitude 49° 25' N. and longitude 54° 10' W. At its entrance lie three islands, Noggin Island, Green Island, and farther in, White Island. You may pass between each of these islands in 7 fathoms; between Rocky Point and Green Island in 7, 8, 13, or 10 fathoms; between Green and White Islands in 13 and 14 fathoms; and between Noggin Island and the western point of the bay in 3 $\frac{1}{2}$, 7, 12, 9, and 4 fathoms. The bottom of these bays, for there are three openings, is rocky, and vessels cannot go far into them.

THE WADHAM ISLANDS.—These consist of a cluster of islands in about 49° 35' N., lying to the north-westward of Cape Freels, and are separated from each other by channels more than 1 and $\frac{1}{2}$ miles wide. The largest is named Peckford's Island, which is about $\frac{1}{2}$ miles long, and lies in the direction of north and south, and bears from Cape Freels nearly N. $\frac{1}{2}$ W., distant 21 miles. From its southern part towards the land about Ragged Harbour, there are a number of rocky islets and reefs, with channels between them, rendering the navigation of this part extremely hazardous. About $\frac{1}{2}$ miles N.N.W. $\frac{1}{2}$ N. from Peckford's Island is White Island, but a passage between them should not be attempted, for there are several small rocks lying off the north and north-western part of Peckford's Island, some of which extend over almost as far as White Island. N.W. by W. from Peckford's Island, about $\frac{1}{2}$ miles, is Copper Island. Duck Island lies W.N.W. $\frac{1}{2}$ N. $\frac{1}{2}$ miles from Peckford's Island, and

about a similar distance S.S.E. $\frac{1}{2}$ E. from Copper Island. There are also some small rocks lying off the N.W. end of Duck Island, which, being visible, can always be avoided with ease.

The S.S.W. rock is above water, bearing from Offer Island S.S.W., distant $2\frac{1}{2}$ miles, and has near it 13, 17, and 31 fathoms. About N.N.E. distant 3 miles from the S.S.W. Rock is a small flat island; and a little more to the eastward is Offer Island; this is the most easterly of all the Wadham Islands. There is yet a rock to describe which lies E.S.E. $\frac{1}{2}$ E. from Offer Island, distant about $1\frac{1}{2}$ miles, named the *E.S.E. Ground*; this is dangerous, and must have a berth in passing either north or south of it. The Tom Cod Rock, also dangerous, lies three-quarters of a mile S. by W. from Offer Island.

FOGO ISLANDS lie to the north-westward of the Wadham Islands. Great Fogo is 4 leagues long and 9 miles broad: off its south-western point lie the Indian Islands, and N.E. by N. $3\frac{1}{2}$ miles from the body of Great Fogo, are the Little Fogo Islands. Numerous other rocks and small islands are scattered about them.

Fogo Harbour lies on the north side of the island; it is considered good for the fisheries, but its entrance is dangerous and difficult. There is a strong current running south-eastward, especially with a westerly wind, to guard against which as much as possible you should hug Fogo close on board, until you open the entrance, which is narrow; having found this, run directly in, keeping right in the middle, and you will carry 8, 9, and 4 fathoms throughout; this is named the West Tickle. When you are through, if intending to anchor in the western bight, you must steer south-eastward until you bring the point between the height N.W. by W. to avoid the Harbour Rock, which seldom appears except at low water, spring tides; then haul up to the westward, and anchor in from 6 to 8 fathoms, good ground and well sheltered.

Vessels from the eastward, and bound to Fogo Harbour, should avoid the Dean's Rock, a sunken danger lying between Joe Batt's Point and the harbour. Steer W.N.W. until Brimstone Hill, a remarkable round mountain, appears in the centre of the harbour; then steer for the East Tickle, which may be known by the lantern on the top of Sim's Island, making the west side of the Tickle. Give a good berth to the point on the starboard side, and run right up the harbour, keeping near the south side, and you will carry from 5 to 8 fathoms through. Immediately you get round the point, steer S.W. to avoid the Harbour Rock, and follow the directions given above for anchoring. The Middle Tickle appears the widest, but it is fit only for boats; either of the other two must be adopted as best suits the wind.

The Little Fogo Islands are nearly surrounded by rocks, both above and under water, making this part of the coast exceedingly dangerous. To the eastward of Little Fogo is a small rock just above water, named the North-Eastern Rock, and somewhat in this direction, distant 10 or 11 miles, is said to lie Cromwell's Lodge, whose exact position is not well determined, although it is considered to be extremely dangerous. Northward of Little Fogo are the Turr Rocks, and from hence, in the direction of the western side of Great Fogo Island, are the Storehouse Rocks, the Seals' Neets, Gappy and Stone Islands, the Jigger and Black Rocks, and various other dangers, all having deep water round them, which increases the difficulty of the navigation.

Ireland Rock lies about 4 miles E.N.E. of Little Fogo Islands. It is the northernmost of the Fogo Rocks, and the sea always breaks on it. The reefs extend nearly 13 miles in a westerly direction from Ireland Rock to Fogo Head Rock, which lies about a mile north-westward of Fogo Harbour. Between the reefs and islets are several deep-water channels, which might be taken by those well acquainted. At the distance of 4 miles S.E. by S. from the Little Fogo Islands, and 5 miles eastward of the N.E. part of Fogo Island, lie the Barrack Rocks, which extend N.W. and S.E. fully a mile, and part of them are above water. At the distance of 2 miles south-eastward of the Barrack Rocks, and $7\frac{1}{2}$ miles N.E. $\frac{1}{2}$ E. from Cape Fogo, is situated the Inspector Rock, on which the sea generally breaks.

CHANCE ISLANDS TICKLE.—This harbour is very secure, and has good anchorage, with 6 or 7 fathoms, muddy bottom. The islands about it are, generally, low and marshy, but abundance of firewood may be procured, though water is scarce. The passage in is between the Ruth's Rock and the Tobacco Islands, the mark being Brim-

stone Head kept between both, which will clear all the dangers on the northern shore, and also off Skinness Harbour; or you may bring the Tickle to the westward, between the points, and steer directly through in safety.

ISLAND OF TOULINGUET.—This island lies to the westward of Fogo, and has several small islands about it. Here is situated what is named Toulanguet Bay; and to the south-westward of Toulanguet Island, is the Harbour of Herring Neck, which is said to be a spacious fine harbour, and fit for any vessels.

From Toulanguet Bay to Cape St. John, the course is N.N.W. 10½ leagues.

CAPE ST. JOHN is a high rugged point of land, situated in about lat. 49° 58' N., and long. 56° 30' W., and may be readily known by the small round island to the eastward, distant from the northern pitch of the cape about 5 miles. This is named the Gull Island, and is the third of that name on this side of Newfoundland. Cape St. John is the point where, by treaty, the French fisheries begin; their boundary continues thence northward and round the western coast, as far as Cape Bay.

At nearly two miles to the southward of Cape St. John, lie the Bishop Rocks, over which the sea breaks in bad weather. There are several fishing harbours on the coast to the southward of the cape, particularly Shoes Cove, Tilt Cove, and Snook Harbour; the latter the best with south-easterly winds.

There are said to be various deep bays and inlets between the Fogo Islands and Cape St. John, but their particulars are very little known, although there can be little doubt that the Great Bay and River Exploite, and the Bay of Notre Dame, afford many places of good anchorage, and of easy access, which when fully explored, may become hereafter frequented, better understood, and prove highly beneficial.

Bounding Cape St. John, and at about 5 miles to the westward, is the harbour of La Scie, to sail into which there is no danger whatever, but it is open to winds from the N.N.W., which send in a heavy sea. The best holding ground is just within a little cove on the starboard side, in 16 fathoms, muddy bottom; but the ground is not good farther in.

Great Round Harbour is a good and convenient place for vessels engaged in the fishing trade; there is no danger in sailing in or out of it, both shores being bold-to. The anchorage lies within the two inner points, where vessels may ride in 4 or 5 fathoms water, secure from the weather, and entirely land-locked. Little Round Harbour, which lies round a point to the north-eastward, about 1½ miles distant, is merely a cove, and totally unfit for shipping.

PACQUET HARBOUR lies about 5 miles N.W. by N. from Great Round Harbour; its entrance bears from the channel between the Horse Islands, nearly S.W. by S. It may be known by its southern head, which is a high and rocky mountain; the northern head is somewhat lower, and there are three rocky inlets lying directly off its point. Both points are bold-to, but a little to the southward of the rocky inlets, is a small shoal with 2½, 3, and 4 fathoms upon it; the channel between it and these three rocks has 7, 8, and 9 fathoms, and the water across the entrance is from 8 and 9, to 19 and 20 fathoms. A similar depth continues more than a quarter of a mile in, where the harbour divides into two channels, the one running northward, the other West and South-West.

The northern arm is about one quarter of a mile long, and has 20, 18, and 19 fathoms at its entrance, becoming shallower as you advance. Vessels running in here should keep the starboard shore on board; for about two-thirds up the channel, on the port side, there is a rocky shoal, a small part of which occasionally appears above water; on the other part of this shoal are from 3 feet to 4 fathoms. Having passed this shoal, steer up mid-channel, and anchor in 5, 7, or 8 fathoms; the northern part near the land becomes shallow, and a rivulet here falls into the bay, which is said to issue from some extensive lakes about two miles inland. The south-western channel is somewhat narrower than the northern one, but is quite free from danger; the shores on both sides are steep-to, and bold, and you will have 12, 10, 9, 8 and 7 fathoms for half a mile in; it then shallows to the head of the bay, where there is a sandy beach and a river running southward. This is a snug and secure place for vessels to run into whenever occasion may require. To the northward of the northern point is a mountain, named Signal Hill, usually having a signal-post upon it, and serving to point out its situation.

The entrance to Pacquet Harbour should not be attempted when the wind is

between N.W. and S.W., as the squalls off the land are then both heavy and changeable; and to miss stays, when in the narrows, would be dangerous. If apprehensive of bad weather, it would be better to make for Round Harbour. Mings Bight and Verte Bay lie to the westward, but although the anchorage is good, they are but little frequented.

THE ST. BARBE, or HORSE ISLANDS, are situated nearly midway between Partridge Point and Cape St. John, bearing from the latter N. by W. and N.N.W. distant about 5 leagues. They are two islands, forming a circuit of nearly 2 leagues, and appearing moderately high. There is a rock above water lying to the northward of the easternmost, distant $1\frac{1}{2}$ miles; and on the east side of the same island are some sunken rocks which stretch out in some places near a mile from the shore. At the S.E. part of this island there is also a small cove, fit only for boats. There is a safe channel between these islands, with from 40 to 48 fathoms, black mud, but it is seldom attempted. The eastern island is the largest.

About 3 miles, N. $\frac{1}{2}$ E., from Paquet Harbour lies Hardy Harbour, having Wood Island lying before it. Fishing is carried on here, but with strong sea winds it is inconvenient. To the extent of nearly 3 cables off, the north side of Wood Island is rocky. Five miles north-westward of Wood Island lie the Mings Islands, which consist of two large rocks, lying off the N.W. point of Mings Bight, having a passage between. Two miles N. by W. of the Mings Islands lies the Sisters' Rock, on which the sea always breaks. A dangerous rock lies about three-quarters of a mile to the northward, with only 3 feet water on it. These latter rocks lie near the centre of the entrance to Green or Verte Bay.

Fleur de Lys Harbour lies to the northward of Mings and Verte Bays, and about 3 miles to the south-eastward of Partridge Point, and derives its name from three remarkable hillocks just over it. It is small, safe, and secure from all winds; and excellent anchorage, in 4 fathoms water, may be found in its N.E. arm. A rocky shoal lies 100 yards off the island, to avoid which you must borrow towards the eastern shore until you get Bluff Head open of the island. There is plenty of wood, but the water becomes scarce in a dry season. It is, however, very conveniently situated for the fisheries, and is commonly frequented by French vessels.

WHITE BAY is a large and extensive arm of the sea, being at its entrance, from Cape Partridge to Cat Head, fully 6 leagues wide, and running in a south-westerly direction, about 15 leagues, to its upper end, where it is contracted to a river's mouth, $1\frac{1}{2}$ miles wide. In this bay or gulf are several islands, coves, and inlets, affording both anchorage and shelter.

Lobster Harbour lies about 4 leagues southward of Partridge Point, and is a small round harbour, with a shallow narrow entrance, having at low water, in some places, not above 8 or 9 feet water; but when you are once entered, you will have 12 and 13 fathoms all over the harbour. Small vessels, therefore, sail in, commonly, at the flood tides. It is high water, F. & C., about 6h. 45m.; springs rise 6, neaps 4 feet.

Southern Arm lies about 5 miles from Lobster Harbour, and farther up the bay. Here a ship may anchor with great safety, in 17 fathoms water, about 3 miles within the heads; but there is also good anchorage in any part below this, and before you are advanced so far up, in 20 and 25 fathoms. A little above the inner point, on the northern side, is a muske bank, which stretches quite across the arm, and nearly dries at low water; and when you have passed this you will have 11 and 12 fathoms water, and the channel continues deep until you approach the river's head. This is the first great inlet on this side of the gulf, and may, therefore, be readily recognized.

Middle Arm lies about $1\frac{1}{2}$ miles W.S.W. from the Southern Arm; at its entrance is a rocky island, which is joined to the shore by a shoal, over which are 1 and 2 fathoms water. This inlet runs in to the southward, about 3 or 4 miles. To enter it, you will do well in keeping the port shore on board; it is fitted only for small vessels. Two leagues W. by S. from Middle Arm is Hawling Point; and between them lie the Pigeon Islands, about which the ground is good for fishing.

Western Arm lies S.E. of Hawling Point, and runs up nearly 4 miles; here large vessels may anchor in from 14 to 16 fathoms water. There is a cove on each side of its entrance; that to the north-eastward is named Bear Cove, where smaller vessels may moor securely, and ride safe from all winds, in about 12 fathoms water; the other

is named Wild Cove, a very indifferent anchorage, open to the north-westerly winds and the bottom rocky and foul.

About 5 leagues down from the river's head, and near the S.E. side of the bay, lies Granby's or Mid Bay Island, without either cove or place of shelter. On the south-eastern part of this island is a shoal running off, the length of 2 cables, with not more than 9 feet water over it; and nearly abreast of this island, on the S.E. side of the bay, is Purbeck Cove, where shipping may find safe anchorage, and lie with good convenience for the fisheries.

Having passed to the southward of Granby's Island, the bay narrows and runs up about 5 leagues towards Gold Cove; where the river branches out into several streams; and is commonly named the River's Head.

Sop's Arm.—On returning up the western side of White Bay, you will perceive Sop's Island, about 8 miles in length, and 11 miles in circuit; near its western end is Goat's Island. These form a long passage, or arm, named Sop's Arm; at the northern part of which a vessel may safely anchor, just inside the north side of Sop's Island; this will be the best side of the channel or passage into the arm; but there is anchorage in deep water between Sop's Island and the main, before you reach so far up as Goat's Island. There is also a small cove at the north end of the island, named Sop's Cove; and two other coves opposite the main, named Hart's Coves, in all which the fisheries are carried on, although ships generally anchor in the upper part of the arm and inside of Goat's Island.

Jackson's Arm lies about 8½ miles to the northward of Sop's Island, to enter which you will pass a ragged point, low and round: the water here is deep, except in a small cove on the starboard side, where a vessel should moor head and stern. This place affords the largest timber in White Bay. Frenchman's or French Cove is about 3 miles to the northward of Jackson's Arm, and offers good and safe anchorage.

Four miles to the north-eastward of Frenchman's Cove is Coney Arm Head, the most remarkable land on the western side of White Bay, and bears W. ½ N. distant 8½ leagues from Cape Partridge. The land here projects out 1½ miles, forming a deep bight, named Great Coney Arm. In this place there is no good shelter for shipping; but in Little Coney Arm, which lies to the westward of the head, is convenient anchorage for small vessels, although its entrance is too shallow for large ships; here fishing-craft frequently rendezvous.

About 10½ miles to the north-eastward of Coney Arm Head, lies the Great Cat Arm, and 3 miles farther is Little Cat Arm. In Great Cat Arm the depth of water is from 27, 35, 39, 37, 24, 20 to 15 fathoms, at the end of the arm, where it is quite safe, and sheltered by the land. At the end of the north point lie some rocks, which are above water; to avoid them, keep quite close to the south shore; but in going into Little Cat Arm, it is better to keep on the north side, as there is a rock near the land on the opposite side. The entrance to this arm is narrow, and there will be found in it a depth of 23, 20, and 8½ fathoms; the least depth of water will be found on the south side of the harbour, within the points.

Little Harbour Deep is much exposed to south-easterly winds, and by no means a good harbour; off its northern point are some rocks, always above water, which lie half a mile from the shore, and afford good fishing about their environs. The water is not very deep in any part of this inlet, and when you get up half-way from the entrance to the head, or farther end, it becomes quite shoal.

Grand Vache is an inlet about 1½ miles deep, lying one mile from Little Harbour Deep. It is also open to the southerly winds, and may be known, when near the shore, by the northern point appearing like an island, and bearing N.W. ½ N. from Cape Partridge; it is but an indifferent place for shipping, and seldom frequented. From hence, 7 miles in a north-easterly direction, is Orange Bay.

Orange Bay, or Great Harbour Deep, may be known from any other inlet, by the land at its entrance being much lower than any other land on the north side of White Bay, and by its bearing N. ½ W., distant 6½ leagues, from Cape Partridge; it forms a large harbour, and when you get about 8 miles within its entrance, divides into two branches. In the northern arm the water is too deep for vessels to anchor, until they have run up near the head; but in the western arm there is no anchorage, having 50 fathoms near its head. A little within the entrance of Orange Bay, there is a cove on each side, frequented by the fishing-vessels; but these are very dangerous for a ship

to lie in, for although they moor head and stern, yet should a gale come on from the eastward, there is little safety to be depended upon.

Proceeding about 11 miles along the coast you will arrive at Fourchêe, a place little frequented, and having no anchorage until you approach its farther end, where you will find a cove on the northern side. This cove is 2 or 3 miles above the entrance, and very small vessels may anchor there in 18 fathoms, mooring head and stern. The land on both sides is extremely high and steep to the shore. There is also another arm running in about 2 miles farther than the cove, but it is so narrow, and has such a depth of water, that it is almost useless to shipping.

About 5 miles to the north-eastward of Fourchêe, and about 6 miles to the south-westward of Canada Head, lies the entrance to Hooping Harbour, or Sans Fond. It has two arms or bays, the one running up northward, the other westerly. Captain Bullock recommends, as safe anchorage, near the head of the northern arm in 6 fathoms, although open to the southward; yet the western arm is more sheltered, and the water is much deeper, having 16 to 24 fathoms near its head. The entrance of this harbour lies N.N.E. $\frac{1}{2}$ E., distant 27 miles from Partridge Point.

About 6 miles N.E. by E. $\frac{1}{2}$ E. of Hooping Harbour lies Canada Head. It is elevated land, and very easily distinguished either from the northward or southward; but when directly to the eastward of it, it becomes difficult to recognise it from the high land up the country at its back.

CANADA BAY is an inlet of considerable size and extent, having at its southern entrance Canada Head, from whence it runs N.N.-Easterly full 4 leagues; here vessels caught in easterly gales may seek shelter, and anchor in safety. In entering, when you get above the two rocky islets which lie near Bide's Head, and named the Cross Islands, you will see a low white point, and another black one a little beyond it; off this latter, distant 3 cables' length, lies a sunken rock; keep, therefore, towards the middle of the bay, and you will find no danger, except a rock above water, which lies about a mile below the point of the narrows; this you will endeavour to leave on your port hand, keeping mid-channel, and you will have 10 fathoms through the narrowest part. Soon after you have passed the narrows, the bay widens, and is above a mile across, and you may then anchor in from 18 to 20 fathoms, good holding ground, and secure from all winds; but this bay is not much frequented, and only occasionally resorted to in case of necessity.

Engle Harbour is situated on the north side of Canada Bay. To sail into this place you must pass a low point, appearing white, and forming the northern point of entrance to Canada Bay; then keep near the shore until you get abreast of the next point, which makes the harbour; haul round to the S.E., taking care not to come too near the point, for it shoals a full cable's length off. Having so far advanced you can anchor in from 15 to 7 fathoms, good holding ground; but this is well up the cove, which is too small to lie in, unless you moor head and stern.

In Bide's Arm, which runs up N.N.E. from Engle, almost 2 leagues, there is no good anchorage; the water being too deep; but within the south end of Engle Island is a good harbour for shallops, although from thence to where the ships lie, there is no channel, even for boats, unless at high water, or beyond half-tide.

Goufre Harbour lies in the S.W. corner of the bay, about 2 miles westward of Canada Head, and 3 miles from the north point of the entrance. In this harbour, which runs in S.W., nearly a mile, is good safe anchorage, in 15 fathoms, well sheltered from wind and sea. Canada Harbour is the first on the port hand within Canada Head; here is a fishery establishment. As it is unsafe with N.E. winds, the ships anchor in Goufre, and only use this harbour with boats.

Conch Harbour bears nearly E.N.E. $\frac{1}{2}$ E., distant 11 miles, from the entrance of Canada Bay; it lies very open to the winds from the south, but has good anchorage well up to the head, in 11 fathoms water, good holding ground. S. by W. from Conch, distant 2 leagues, is Hilliard's Harbour, (named Bicotit by the French), which is a bad place for shipping, but very convenient for the fishing-craft.

Cape Rouge Harbour lies E.N.E. from the harbour of Conch, and bears N.W. by W. from the south end of the island of Groisie, distant 2 leagues: its northern part is named Cape Rouge. Shelter from the heavy swells of the Atlantic is afforded by Groisie and Belle Isles. It is shallow and rocky in the southern part of its entrance, and the harbour shoal lies in the S.W. arm. The best anchorage is in the northern arm in any depth of water. Ships may beat in or out, but there is no anchorage in

the centre of the harbour as it is too deep. A small island, named Rouge Island, lies directly opposite to its entrance; its northern end requires a berth in passing.

BELLE AND GROAIS ISLANDS.—These islands lie off the N.E. coast of Newfoundland, from which they are separated 9 or 10 miles. Belle Isle is the southernmost and larger island, being 9 miles in length, and 6 broad; there is a little harbour at its south part, where fishing craft occasionally resort, but not calculated for shipping; other coves may be found about the shores of the island, where shallows sometimes take shelter. Off its western side lies Green Island, a small rocky islet, and to the southward a bank of soundings extends with 12, 20, 25, and 30 fathoms. There are some rocks, both above and under water, at the south point of Belle Isle; some of these lie 2 miles from the land. The south rock, above water, lies 2 miles S.W. from the south point of the island, and a sunken rock lies one-third of a mile S.W. of it; this is the southernmost rock.

Groais Island lies to the north-eastward of Belle Isle, and is about 7 miles in length, and $3\frac{1}{2}$ miles broad; its northern point lying in latitude $50^{\circ} 59'$. Off this end, and also off the N.W. part of the island, are several rocks above water; otherwise this island is bold all round, and between it and the main are from 20 to 70 fathoms water. The channel between it and Belle Isle is 5 miles wide, and in it there are from 40 to 58 fathoms, dark mud and rotten shells. In order to clear the rocks lying off the N.W. point of the island, the N.E. point should not be brought to the southward of S.E.

CROC HARBOUR, the central point of the French station, is easy of access, although somewhat difficult to discover, particularly when making the land directly from the east; it is well provided with wood and water. When the north part of Belle Isle is clear of the southern part of Groais, you will be a little to the southward of the harbour; and this mark will not fail to point out its situation, especially as the headland, forming the southern shore, is bare of trees, and has a round appearance. The rocks off this headland will also help to distinguish it.

The entrance is about two-thirds of a mile wide, between Cape Vent (Wind) on the south and Cape Groux on the north, with a depth in mid-channel of 18 to 20 fathoms at low water, sand, gravel, and rock. At the foot of Cape Vent, just outside the harbour, are two rocky islets, having a passage between them fit for boats; the outer rock is clean close-to, so that a vessel may pass pretty near it, there being 6 to 8 fathoms a short distance off. In the chart there is a plan of the harbour which should be referred to.*

When within the harbour, the south shore will be observed to run first W. by N., and then to the W. by S., forming the S.W. bay, which is seldom used on account of being exposed to N. and N.E. winds; yet small vessels, drawing 9 to 10 feet water, occasionally run up to the head of the bay, and anchor between the islet and small fishing-station of Petit-Maitre, opposite the stage, but it is necessary to moor fore and aft. A little within the entrance of the bay, on its western side, is a rock above water, named the Folle or Balaine (Wale) Rock, on which the sea always breaks; in sailing up, it must be left to starboard, and as soon as passed, you must bear over to a small bay, named Blère Cove, to avoid a breaker which lies in the direction of the islet; after this, clear between the islet and Petit-Maitre. From the entrance of the S.W. bay the harbour runs N. by W., and after a short distance divides into two arms, one named the Fond, running to the northward, and the other Epine-Ordret, towards the south-west.

There is anchorage, in any part of the harbour, on a bottom of dark slate-coloured mud, and soundings of 22 to 9 fathoms; but all parts of the bay are not considered to be equally good. The best anchorage is considered to be at the entrance of the Fond, in 18 or 19 fathoms, clayey mud, well protected from easterly and westerly winds; at this position Cape Vent is concealed by Point Gamille. With a strong breeze from the N.W. it is difficult for a large vessel to tack so as to reach this anchorage, in that case it is prudent to anchor near Point Groux, the north side of the bay, on a rocky bottom of 18 to 20 fathoms (34 metres), and to wait until the breeze moderates, so as to allow you to come more within. There is also anchorage in Epine-Ordret, but it is seldom necessary to go so far in.

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rally squally. North-easterly winds are also prevalent in bad weather, but they never cause a very heavy sea. In Epine-Cadoret, just after passing a narrow creek, almost dry at low water, there is a convenient place on the rocks to heave a vessel down to careen, where the French ships, Olivier and Philomèle, were hove down, and the rocks prepared for the rigging and a capstan. The soil here is said to be wet and spongy, being composed principally of decayed vegetable matter, and covered with the dwarf pine, indigenous to the country, which does not attain any great dimensions, the largest tree being not more than 1½ feet in diameter, and the wood, when full grown, of but little value.

The shores of Croc Harbour are bold-to. A frigate can tack in, but great attention must be paid to veer in good time, as, under the land, the wind is uncertain, and frequently takes aback at the moment of tacking, particularly when it is from the N.W. and in squalls.

In leaving Croc Harbour, and proceeding to the northward, after passing Point Groux, two black rocks are seen close to the shore, named the Ravens. Hence to Irish Island, a black barren rock, very abrupt, the land runs E. by N. ¼ N., 2½ miles, and thence towards the N.E. to the south-west point of St. Julien Island, at the entrance of the harbour of that name.

The harbours of Great and Little St. Julien and also that of Grandway are all adjacent to the Island of St. Julien, and bear to the north-westward of the northern part of the Island of Groais. The south-west end of the Island of St. Julien is but little separated from the main, and cannot be distinguished to be an island, until you arrive very near it; there is at this end no passage, except for boats; therefore, to sail into either of these harbours, you may keep close to the north-east end of the island; and in passing that, the harbours will open to your view.

Great St. Julien is the easternmost harbour, to which there is no danger until you get within the entrance, when you will find the starboard shore to be shoal, nearly one third over; but when you have passed the first stages, you may anchor in from 8 to 4 fathoms water.

To sail into Little St. Julien, you will first steer for Great St. Julien Harbour, in order to clear a sunken rock, which lies directly before the harbour's mouth; and having arrived opposite the entrance of Grandway, steer into the harbour, and anchor in 5 or 4 fathoms water. It is necessary for all ships using either of these harbours, to moor both head and stern. Grandway is not a harbour for shipping, although it is very convenient for fishing craft.

FISHOT ISLANDS.—The largest of the group of these islands, the southernmost, lies about 3 miles N.E. ¼ E. from St. Julien Island, and possesses, on its western side, a harbour of the same name. In a north-easterly direction these islands extend to the N.E. island, nearly 4 miles. The N.E. island is surrounded by shoals to some distance, but between it and the next two islands to the southward there are passages, which, in fine weather, may be taken. Those well acquainted with Fishot Harbour may approach it either from the northward or southward, but it is only fit for vessels drawing 10 or 11 feet water. There are numerous shoal rocks scattered about between Fishot Harbour and the N.E. island; but to within one-third of a mile of the eastern shores of these islands all is clear.

HARE BAY.—The entrance of this bay is about 5 miles wide, and is formed by Cape Goose on the north and Fishot Islands on the south; thence it extends to the N.W., about 6 leagues, to the Northern Arm, and is about 6 miles in width. There are several good harbours within it, but they are not much frequented. The south side of the bay is bordered by rocks and islets; the northernmost and most remarkable are the Spring and Brant Islands. The Spring Islands lie on the south side, 6 miles within the entrance of the bay, and the Brant Islands lie 4 miles farther. The Southern Arm runs in about S.W. by W., 5 or 6 miles from the eastern side of the Brant Islands, where good and well-sheltered anchorage may be found in 10 or 12 fathoms; good anchorage may also be found to the westward of the southernmost of the Brant Islands, in 5 or 6 fathoms. The north side of the bay is all clear and safe. How Harbour lies on this side, 11½ miles from Cape Goose.

How Harbour is by far the best in Hare Bay, and has safe anchorage in every part. The entrance to it lies 11½ miles N.W. from Cape Goose, and N.E. by N. ¾ miles from the eastern part of the Brant Islands. To the northward a range of marshes and ponds extends as far as Pistolet Bay. The harbour is about 1½ miles long, and

nearly half a mile wide. Off its western point a small rock lies, but it is very near to the land. The upper part of the harbour shoals gradually, but in the middle of the harbour are 10 fathoms.

Goose Harbour lies on the western side of Cape Goose. It is small, but very secure, and possesses excellent anchorage in 4 and 5 fathoms. Vessels can sail in with a westerly wind; and rings are fixed, to assist vessels warping in with a contrary wind. Vessels generally moor head and stern in this harbour. Cape Goose is one of the most remarkable points on this coast, and is visible at a great distance. It lies in latitude $54^{\circ} 17' 30''$ N., and in certain positions it appears like an island. There are three remarkable mountains near Cape Goose, and further in the interior are the Capillaire Mountains, which are of a great height.

Oremallire Harbour lies about 2 miles northward of Cape Goose, and is spacious and good, having excellent anchorage in 7 or 8 fathoms water. It is supplied with abundance of wood and water, and is a good harbour for men of war to put into. Between Notre Dame Island and the port side of the entrance there is a shoal in coming from the southward, which may be easily avoided by keeping near mid-channel.

ST. ANTHONY HARBOUR.—To the eastward of Oremallire Bay lies St. Anthony Harbour, which is a safe place, having good anchorage in 6 or 7 fathoms water, on a bottom of blue clay. Its entrance lies N.W. by W. $1\frac{1}{2}$ miles from Cape St. Anthony, and cannot easily be mistaken, from the remarkable high land on its southern shore, and being the first opening on the port side as you enter the large bay within St. Anthony Point. This bay runs in north, 3 miles, and has 25 to 35 fathoms in it, and is quite open to south and S.E. winds. St. Anthony Harbour is well supplied with wood and water, and is commonly frequented by French fishing-vessels. Cape St. Anthony lies in lat. $51^{\circ} 29'$ N., and long. $85^{\circ} 23'$ W. French Point, which lies $1\frac{1}{2}$ miles to the eastward, has occasionally been mistaken for the cape.

Braha Bay lies 8 miles north-eastward of French Point, and is small but safe, having good anchorage within it. The bottom is sandy, and the shores are bold and steep-to. It generally has a few French vessels in it during the fishing season. The Braha Shoal lies 6.74° E. (true), distant $1\frac{1}{2}$ miles from the Needle Rocks, and 13 feet are reported to be on it, but Lieut. Bullock says that he never found less than 16 feet. Breakers are occasioned by it with a little sea; but the common current will always create a constant ripple. This is the most dangerous rock hereabout. Between it and the shore there is a good passage with 23 fathoms just within the rock, and 47 fathoms near mid-channel.

ST. LUNAIRE.—At the southern point of the entrance of St. Lunaire lie two islands; between which there is but a narrow boat passage. The only channel for ships is to the northward of them, and is almost half a mile wide, with both shores bold-to. Having entered between the points of the bay, you will perceive some small rocky islets ahead of you, on either side of which there is a passage, but none between, for they are connected by a rocky reef of shallow water: you will, therefore, steer to the northward of them all. On the northern shore you will see Amelia Harbour, where, within Red Island, you may anchor in 16 fathoms, or further in, and nearer the head of the bay, in less water. The starboard side of this bay is rocky, and it is sheltered from the westward by some high islands, but toward the top of the bay is a sandy beach, where some small brooks empty themselves.

To the northward of High Island there is a sandy cove, having some little inlets within it; but the depth is shallow, and there is a knoll, of 3 fathoms, lying before its entrance. To the westward is an opening, named N.W. Bay, having the land on both sides rather high, and the passage into it clear of danger; but its farther end becomes unduly very shallow. There is also another narrow entrance to the N.W. Bay, behind a high island, which forms its southern boundary; but this is rocky, and fits only for boats. Between this high island and the two islands at the entrance of Lunaire Bay, is a wide cove, with very good anchorage, in 15, 18, or 20 fathoms water, where vessels may lie secure from south-easterly gales, but in going to it you must avoid a rock of only 10 feet water, which lies to the westward of Pine Island, about a quarter of a mile, and exactly the same distance from the eastern point of the high island forming the southern boundary to N.W. Bay. There is also an opening to the southward, named S.W. Bay, which has not yet been surveyed, but its entrance appears to be clear of danger; and has a depth of 3, 5, and 7 fathoms; the shores on each side are rocky.

Lieut. Bullock says of St. Lunaire Bay:—"This excellent harbour will contain 100 vessels in perfect safety; is remarkably easy of access, and may always be recognized by the appearance of the White Cape. The best and most convenient anchorage will be found at Amelia Cove, in from 5 to 7 fathoms. The approach and entrance are bold and steep-to, only observing to give the points of the southern islands a good berth. Both wood and water are to be obtained without difficulty; and it affords, in every respect, a good and secure anchorage."

GRIGUET BAY is formed by Stormy Cape to the northward, and White Cape to the southward, having several good coves or harbours for shipping engaged in the fisheries. In this bay lies Camel's Island, rising up in the middle like the hump of a camel, and scarcely to be distinguished from the main land in sailing along. Behind this island is situated the S.W. Harbour, a narrow channel, running in nearly 2 miles, with from 4 to 10 fathoms water in it; there is a shoal at its entrance.

The North-Harbour runs in within Stormy Cape; and has, at its entrance, a rock above water, which is bold-to all round, and vessels may sail on either side of it, and anchor in 6 fathoms water.

In the passage which leads to the N.W. and S.W. Harbours there is an island, which contracts the channel, rendering the passages narrow; the best and safest entrance is to the northward of this island, giving the outer point of the N.W. Harbour a small berth, and so soon as you get within the island you will open both harbours; that which runs in north-westward is the larger of the two, and is 2 miles deep; you should sail up on its western side, having 14, 16, and 18 fathoms, until you get inside the point, a little within which is a bank of 7 or 8 fathoms, but when you have passed over this, you will again drop into 16 and 17 fathoms; and as you approach the head of the bay, you will lessen your water to 7, 6, and 5 fathoms, everywhere good anchorage, and well sheltered from all winds. The two islands of Griguet lie outside of Camel's Island, and, together form between them several small but snug harbours for fishing vessels.

Lieut. Bullock observes:—"The north bay is insecure in spring and fall, on account of its being exposed to southerly gales; the S.W. bay is, therefore, recommended, where there is good anchorage in 5 or 6 fathoms water. Camel Island's Harbour will always be found too intricate for a stranger, and should never be attempted without the assistance of a pilot."

WHITE ISLANDS.—The White Islands lie to the north-eastward of Stormy Cape, from which they are distant one league, and about 2 miles from the shore opposite; they are small, of moderate height, and have several rocks inside, both above and under water; but these are not considered to be dangerous, as they are easily discoverable even in fine weather, and the passage between them and the main is very safe, having a depth of 40 fathoms in it.

QUIRPON ISLAND.—This lies off the north-eastern part of Newfoundland, and forms the S.E. point of entrance to the Strait of Belle Isle: it is large, high, and barren, and Cape Degrat is visible, in clear weather, full 12 leagues to seaward.

There is a narrow channel which runs in to the southward of Quirpon, and divides it from the main, in which lies Little Quirpon Harbour. To enter it there is no danger but what you will easily perceive. Vessels commonly moor head and stern, and lie there perfectly secure.

Degrat and Pigeon Coves lie on the eastern side of Quirpon Island, and to the northward of Cape Degrat; at their entrance are several small rocky inlets and rocks above water, affording behind them very fair security for shipping, in 4 fathoms water, and good conveniences for fishing.

Cape Bauid, the northern extremity of Quirpon Island, lies in lat. $51^{\circ} 38' N.$ and in long. $55^{\circ} 28' W.$ It is rocky and steep-to, and may be approached very near with great safety. Having rounded this cape you will perceive a rocky point to the southward leading to the harbour of Quirpon.

Great Quirpon Harbour lies on the N.W. side of the island, and its entrance is between it and Graves Island. In your approach towards it from the northward you may borrow as close as you please to Bauid Head, there being no invisible danger until you arrive at the entrance to the harbour, where there are some shoals, which must be left on your port side: to do this, keep Black Head, on Quirpon Island, open of all the other land, until Raven Point comes over Noddy Point, then haul in for the harbour, going not nearer than the distance of half a cable's length from the point of

Graves Island. The anchorage within the island is everywhere good, with room and depth enough for any ships, and the ground holds well.

The best place to ride in will be towards the upper end of Graves Island, abreast of Green Island, in 7 fathoms water. The passage to the Inner Harbour, on either side of Green Island, is very good for ships of a moderate draft of water, through which you will have 3 fathoms, and above Green Island you have excellent riding in 7 fathoms. There is also a passage to this harbour through Little Quirpon Harbour, but it is too narrow and intricate for any one to attempt, unless they are perfectly acquainted with the navigation. In and about Quirpon are conveniences for a great number of vessels employed in the fisheries, and good fishing throughout the land everywhere is high and wears a barren appearance.

NODDY HARBOUR lies a little to the westward of Quirpon Harbour, and runs in between Noddy Point and Cape Raven: There is no danger in entering, and you will pass to the starboard of the little island that lies about a mile within the entrance, and anchor before it in 5 fathoms water; on you may, with a small vessel, run farther up into the basin, and anchor in $2\frac{1}{2}$ or 3 fathoms. There is a stage within the island, and on the eastern side of the harbour, with convenient room for many vessels.

The Gull Rock lies W.N.W. $\frac{1}{2}$ W. from Bauld Cape, in the Island of Quirpon, distant 3 miles; and N.N.E. nearly 2 miles from Cape Raven; it is always above water. Maria's Ledge lies nearly S.W. from the Gull Rock, distant $1\frac{1}{2}$ miles, and north, about a mile from Cape Raven, being distant about a mile from Maria's Head.

In standing in from the northward, for either Quirpon or Noddy Harbours, you need not fear any danger from the Gull or Maria Rocks, for both are above water; the passage between them is half a league wide, and very safe; it will, however, be prudent to pass near the Gull Rock, because of the N.W. Ledge, which never appears but in bad weather; this N.W. Ledge bears West a little south, distant $1\frac{1}{2}$ miles from the Gull Rock, and you should not attempt the passage between it and the main, on account of other rocks that are said to lie about, and places of shallow water.

SACRED ISLANDS.—Great Sacred Island lies about N.W. by W. $\frac{1}{2}$ W. from Bauld Cape, distant $5\frac{1}{2}$ miles, and S.E. by E. $\frac{1}{2}$ E. from Cape Norman, nearly 12 miles. Little Sacred Island is one mile to the south, eastward of the Great Island; the passage between them is safe, and you may sail round both, for they are high and bold; within them, on the main, and to the W.S. Westward, is Sacred Bay, tolerably large, with numerous rocky islets within it: the shores of this place abound with wood, and, therefore, it is much resorted to for the use of fisheries at Quirpon and Griguet, &c.

Cape Onion forms the north point of Sacred Bay, being high and steep; near it is a remarkable rock, named the Mewstone, and much resembling that in Plymouth Sound. There is a little cove to the southward of this rock, where a vessel may occasionally resort to with safety. From Cape Onion to Burnt Cape the course is W. $\frac{1}{2}$ N. about $4\frac{1}{2}$ miles. Burnt Cape has a white appearance, and rises from the seaward to a considerable height.

HA-HA BAY.—On the eastern side of Burnt Cape is Ha-Ha Bay, which runs in southerly about 2 miles. It lies open to northerly winds, but, when you are within the cape you will find anchorage in 6 or 7 fathoms, or you can go farther up and ride well sheltered in 3 or $2\frac{1}{2}$ fathoms. This is a convenient place for the fisheries and has plenty of wood.

PISTOLET BAY.—This bay lies between Burnt Cape and the Norman Ledges, which bear from each other N.W. by N. and S.E. by S. distant 4 miles. It is extensive, and reaches several miles each way, having good anchoring ground in most parts, particularly on the western side, a little above the islands, in about 5 fathoms water; the shore is tolerably well furnished with wood, and contributes to supply those places which are destitute of that article.

Cook's Harbour, in the N.W. part of Pistolet Bay, and within the islands, is about 2 miles above Norman Ledge Point. These ledges are about 1 mile to the eastward of the north point. To clear these dangers as you enter, be sure to keep Burnt Cape well open of the outer rocks, that lie off the islands at the western entrance to Pistolet Harbour, and if going in, so soon as you consider yourself to be to the southward of these ledges, steer in for the harbour, leaving the islands and rocks on your port side;

keep the southern shore on board, for fear of a ledge of rocks that juts out from a little rocky island on the other side; and so soon as you get within the island, haul over for the northern shore, and anchor in 4 or 5 fathoms water. This harbour might be made very convenient, with several fishing rooms; and proper stages, to which the boats might resort and cure their fish, might be erected in all the coves between it and Cape Norman.

BELLE ISLE lies at the entrance of the strait of the same name, and should be named the Northern Belle Isle, to distinguish it from those we have already described, lying to the southward. It is about $9\frac{1}{2}$ miles long and $4\frac{1}{2}$ broad, being distant from Bauld Head in Quirpon Island about 14 miles, and from the coast of Labrador 12 miles; it is moderately high, and wears an uniform sterile appearance. On its north-western coast there is a small harbour named Lark Cove or Harbour, lying within an island almost close to the land, and fit only for small craft; and at the eastern side of the island is another cove named Batteaux Creek, frequented occasionally by shallops. About two miles to the north-eastward of this island lies a ledge of rocks, part of which appear above water, and over these the sea breaks very high; this is named the N.E. Ledge, and you will have 15 and 20 fathoms close to it, and 55 between it and the north part of the island. The soundings about Belle Isle are very irregular; near the island you will seldom find less than 20 fathoms, except on a small bank, said to lie to the northward, distant 4 miles from its northern part, whereon are only 5 fathoms. The northern part of this island is said to lie in about the latitude of $52^{\circ} 1' N.$, long. $55^{\circ} 19' W.$ The S.W. end of the island bears S.E. $\frac{1}{2}$ S. 19 miles from York Point, and N.E. $\frac{1}{2}$ N., 14 miles from Cape Bauld, in Quirpon Island.

CAPE NORMAN is the northernmost point of Newfoundland, and is of a moderate even height, and very barren appearance, which continues far inland. It is about a league to the north-westward of the ledges from Cape Norman that the shores of Newfoundland turn south-westerly, and will be hereafter described.

SOUTH COAST OF NEWFOUNDLAND.

FROM CAPE RACE TO CAPE CHAPEAU ROUGE.

CAPE RACE, the south-east extremity of Newfoundland, is, as before mentioned, a table land of moderate height. A black rock lies near to it, and several smaller ones around it. E.S.E. from the cape, and to the southward of Cape Ballard, lies a fishing-bank, named New Bank, about 5 miles long and nearly 2 miles broad; on it are from 17 to 25 fathoms water, with very deep water on its outside, and 30 fathoms just within it. Vessels making this part of the coast may know their approach toward the land, by suddenly lessening their water to the above depths.

From Cape Race the land trends $5\frac{1}{2}$ miles westerly to Mistaken Point, off which is a rock above water. From Mistaken Point, the coast runs N.W. by W. a distance of 2 miles to French Mistaken Point, off which is also a rock. Thereafter the coast trends N. by W. into Bischoy and Mutton Bays, which are seldom frequented; it is considered dangerous to get embayed there, as the sea generally drives in, and there are hardly any currents to help you out again. Mutton Bay lies between Cape Mutton and Cape Powles, and is about 2 miles deep, with 12 to 8 fathoms, rocky bottom. The N.W. part of Mutton Bay is separated from Trepassey Harbour by a low, narrow, stony beach, over which the vessels in Trepassey Harbour can be seen. At the extremity of this neck of land is Cape Powles, which forms the east point of the entrance into Trepassey Harbour.

TREPASSEY HARBOUR.—The entrance to this harbour is about three-quarters of a mile wide, and runs nearly of the same breadth for $2\frac{1}{2}$ miles, when it narrows to one quarter of a mile, but again increases to three-quarters of a mile where the ships ride. Ships intending to enter this harbour generally steer from Mistaken Point towards Cape Pine, until they fairly open the harbour; they may then safely run along shore as it is bold. The dangers in sailing into the harbour are, a small rock on the eastern shore, about a mile within the Powles Head, and about one-third of a

cable's length from the shore; and on the west side, a shoal which runs along shore up the harbour to a low green point. Baker's Point on with a low rocky point at the entrance of the harbour, will carry you clear of this shoal. When you are nearly up with the low green point you may steer more to the westward, and anchor either in the N.W. or N.E. arm in 5 or 6 fathoms. Wood and water can be obtained here with facility.

From Cape Powles to Cape Pine, the bearing and distance are S.W. by W. 5 miles. Cape Pine is moderately high and barren. A tower, 50 feet high, and painted with bands of red and white alternately, has been erected on Cape Pine, from which a brilliant revolving light is exhibited, appearing in its greatest brilliancy every half minute. The light is elevated 303 feet above the level of the sea, and is visible to seaward in clear weather at a distance of 45 miles. Lat. $46^{\circ} 37' 13''$ N., and long. $55^{\circ} 32' 27''$ W.

From Cape Pine to Cape Freels the bearing and distance are West, $1\frac{1}{2}$ miles; and from Cape Freels to Black Head, W.N.W., a mile; the coast, thereafter, trends N.W. $\frac{1}{2}$ W., one mile, to the eastern reef and head of St. Shet's Bay, which bay is about a mile deep, but entirely open to the sea, and very dangerous. From the eastern to the western head the bearing and distance are N. by W. 3 miles.

ST. MARY'S BAY.—The eastern head of St. Shet's may be considered the east point of St. Mary's Bay, while Point Lance forms the west point; these bear from each other N.W. by N. and S.E. by S., distant about 30 miles. The bay runs up $9\frac{1}{2}$ leagues, the land on each side being moderately high. From the western head of St. Shet's to Gull Island, the bearing and distance are N. $\frac{1}{2}$ E. 4 miles. Gull Island is small, and lies close to the land. From Gull Island to Cape English the course and distance are N. by E. $\frac{1}{2}$ E. $4\frac{1}{2}$ miles. Cape English is high table land, terminating in a low rocky point, forming a bay, about a mile deep, to the southward of it: at the bottom of this bay is a low stony beach, within which is Holyrood Pond, running to the E.N.E. about 6 leagues; this being within the cape gives it the appearance of an island, when you are to the southward of it. From Cape English to False Cape the bearing and distance are N.E. $\frac{1}{2}$ N. $1\frac{1}{2}$ miles; and from Cape English to Point la Haye the bearing and distance are E.N.E. $6\frac{1}{2}$ miles. Point la Haye is low, and has a ledge of rocks extending from it a quarter of a mile into the sea, and a mile along the shore, on which the sea breaks in bad weather. This is the only danger in the bay, and must be avoided.

From Point la Haye to Double Road Point the bearing and distance are E.N.E. $1\frac{1}{2}$ miles. The land between is low and bears a barren appearance. Double Road Point is the southern extreme of St. Mary's Harbour.

ST. MARY'S HARBOUR.—The entrance to this harbour is above a mile wide, formed by Double Road Point on the south side, and Ellis Point on the north: within these points the channel divides into two branches, one to the S.E., into St. Mary's Harbour, the other to the E.N.E., into what is named Mal Bay. When you are within Ellis Point haul in to the southward, and anchor abreast of the stages and houses, upon a flat, in 4 or 5 fathoms, where you will lie land-locked. This flat runs off about half a mile from the shore, and without it are from 15 to 40 fathoms over to the other side; but the best anchorage is about 2 miles above the town, where it is above half a mile wide, opposite Brown's Pond, which may be seen over the low beach on the starboard hand: here you will lie land-locked in 13 fathoms water, and excellent ground all the way up to the head of the bay.

MAL BAY, on the E.N.E. branch, is about a mile wide, and about 2 miles deep, but there is no good anchorage, a heavy swell generally setting into it. The coast from Trappeau Point trends N.N.E. $\frac{1}{2}$ N., above 2 miles, to Shoal Bay, opposite to the northern point of which lies Great Collinet Island, which is about a league in length and $1\frac{1}{2}$ miles broad; on either side of it there is a safe channel, taking care to give Shoal Bay Point, which lies a mile distant from the east end of Great Collinet, a berth of a quarter of a mile, to avoid some rocks which lie off that point. On the northern side of the island is a stony beach, off which lies a bank for about a quarter of a mile, on which are from 7 to 13 fathoms, rocky bottom. Little Collinet Island is distant 2 miles north-eastward from Great Collinet, and is above one mile long and half a mile broad: it is surrounded by deep water.

GREAT SALMON RIVER.—The entrance of this river, lying 4 miles E. by N., from the northern part of Little Collinet Island, is about three-quarters of a mile wide,

and runs E.N.E. about 7 miles. Little Harbour is an opening about 3 miles up this river, on its southern shore, opposite to which, in a small cove, is the best anchorage in the river, although it is generally good throughout: here you may ride in safety in 3 or 6 fathoms water. As you advance up the river it becomes narrow, and towards its farther end becomes very shallow.

COLLINET BAY.—The mouth of Collinet Bay lies N.E. $\frac{1}{2}$ E. $\frac{1}{2}$ miles from the north point of Little Collinet Island. This bay runs in N.E. by N. about 2 miles, where the point of an island on the starboard side narrows the passage; it then widens again towards the top, where there is a sandy shallow beach. The anchorage is good throughout the whole of this bay. Below the narrows you will have from 12 to 6 fathoms water; there are 7 and 8 fathoms in passing the narrows, and above it 6, 5, and 4 fathoms, all good ground. There is a cove between Salmon River and Collinet Bay, which is $1\frac{1}{2}$ miles deep, and has from 12 to 4 fathoms in it; but as it is exposed to the S.W., it is not much resorted to.

The entrance to North Harbour lies W.S.W. 4 miles from Collinet Bay, and is about three-quarters of a mile wide, and runs up to the northward 3 miles. In it is very good anchorage, in about 5 or 6 fathoms water, about 3 miles within the entrance, where it is not above half a mile wide; or you may run farther up, where two sandy points stretch out, being half a cable's length asunder: keep the starboard point on board, and anchor close within the starboard side. In entering North Harbour, always keep mid-channel; for the eastern side is somewhat shallow.

Between North Harbour and Point Lance the coast trends W.S.W. $\frac{1}{2}$ S., between which are one or two coves, but no place fit for shipping. Point Lance is situated in lat. $46^{\circ} 48'$ and is a low rugged point, though the interior country is considerably elevated. From Point Lance to Cape St. Mary the bearing and distance are N.W. $\frac{1}{2}$ W., about 6 $\frac{1}{2}$ miles.

CAPE ST. MARY.—This cape is the east point of entrance into Placentia Bay. It is a pretty high bluff point, appearing somewhat like Cape St. Vincent on the coast of Portugal. At the distance of full two miles, W. by S. from Cape Lance, lie the Bull and Cow Rocks, which are two flat rocks, lying very near each other, and having many small rocks about them. There is another rock, appearing at half-tide, about a similar distance, but nearer the main, between which and the shore are 10 fathoms, and between it and the Bull and Cow Rocks 15 fathoms. In a similar direction to the Bull and Cow Rocks from Cape Lance, but at 3 leagues distant, and nearly S.S.W., distant 7 miles from Cape St. Mary, are two other little rocks, appearing just above the surface of the water, and having the sea constantly breaking over them; they lie S.S.E. and N.N.W. from each other, distant 3 cables' length, and have 10 fathoms between them and the same depth of water all round them, excepting towards the S.S.E., where, at 3 cables' length off, only 6 fathoms will be found. There are 30, 25, and 19 fathoms between these rocks and Cape St. Mary, and near the cape are 13, 14, and 15 fathoms. Vessels, therefore, may proceed between them, and also between the Bull and Cow Rocks and the main, if necessary, for there is no hidden danger; but perhaps it will always be more prudent to go to the southward of both.

CHAPEAU ROUGE BAY.—The entrance into Placentia Bay is formed by Cape Chapeau Rouge on the west side, and Cape St. Mary on the east side, which bear E.S.E. and W.N.W. from each other, distant about 16 $\frac{1}{2}$ leagues.

Cape Chapeau Rouge is in lat. $46^{\circ} 54'$ is the highest and most remarkable land on this part of the coast: it appears above the rest somewhat like the crown of a hat, hence its name; and in clear weather may be seen 11 or 12 leagues to seaward.

The direction from Cape St. Mary to Point Breme is N. by E. about 9 miles, and from Point Breme to the Virgin Rocks, it is N.E. by N. distance 13 miles. These rocks appear above water, and lie about $1\frac{1}{2}$ miles from the main. A little to the southward of them there are some whitish cliffs in the land, by which that part of the coast may be distinguished, on falling in with it, in thick weather. The Girdle Rock lies S.E.W. from the Virgin Rocks, distant about one mile.

From the Virgin Rocks to Point Verde, the course is N.E. by E. $\frac{1}{2}$ E., distance 6 miles. Point Verde is the south point of the entrance into the Road of Placentia, the first place of shelter for shipping on the starboard shore of Placentia Bay.

PLACENTIA HARBOUR.—Point Verde is a low level green point, with a pebble beach on the east side, nearly half a mile long, with several fishing stages just within

it. At the end of this beach is a high rocky cliff, that extends to the S.E. corner of the bay, where it again terminates in a pebble beach. This beach runs E.N.E. one mile to the Fort Point: on the inside of it stands the town of Placentia, facing the S.E. arm of the harbour. A little to the southward of the town is a high hill, with a remarkable cliff in the middle of the beach. The outer point on the north side is level, with a clay cliff on the outer part. It bears from Point Verde N.E. by N. nearly, distant $1\frac{1}{2}$ miles: from this point the land forms a small bay, with a stony beach round it, to the corner of the cliff under Signal Hill, this being the first hill on the north side of the road from this point. The cliff continues to Freshwater Bay, which is formed in a small valley between Signal Hill on the west, and Castle Hill on the east, with a pebble beach round it. A small rivulet runs down this valley, where ships can procure water.

To sail into the road coming from the southward, keep one league from the shore, in order to avoid the Gibraltar Rock, which lies W.S.W. from Point Verde, about $2\frac{1}{2}$ miles, with 8 feet water on it. Near the bottom of Placentia Road, on the north shore at the top of a hill, stand the ruins of a castle, distinguishable far out at sea. So soon as the castle comes open to the northward of Point Verde, you may haul in for the castle, taking care to give Point Verde a berth of nearly 2 cables' length; and by keeping your lead going, you may borrow on the flat, which lies on the south shore, into the depth of 4 fathoms; the soundings throughout are gradual. The best anchorage in the road is under the Castle Hill, in about 6 fathoms water. There is a long beach at the bottom of the road, which terminates in a point to the northward, on which stand some houses and an old fortress; there is also a fort on the opposite point. The entrance into the harbour is between these, and is very narrow, being not more than 60 fathoms across, and the tide into it runs more than four knots an hour. In the entrance you have $3\frac{1}{2}$ fathoms water; after you are within the narrows, it is about one-third of a mile broad, and about $1\frac{1}{2}$ miles long: here you may anchor in perfect safety, in 6 or 7 fathoms water. The tide rises 6 or 7 feet; and it is high water, F. & C., at 9h. 15m. a.m.

The only dangers near Placentia are the Virgin Rocks and Gibraltar Rock, on the south, and Moll Rock on the north.

The Moll Rock bears from Point Verde N.E. $\frac{1}{2}$ E., distant 2 miles, and N.N.W. from Moll Point, three-quarters of a mile. There are only 12 feet of water on this rock, with 10 fathoms around it.

From Point Verde to Point Latina the bearing and distance are N.E. by N. $5\frac{1}{2}$ miles. At the distance of a mile S.W. from Point Latina is the Wolf Rock, which lies about half a mile from the main, and between Placentia Harbour and Point Latina, and, therefore, must have a good berth in passing. The shore all the way is low near the sea, but high and ragged inland. Point Roche is about a mile to the eastward of Point Latina, and has a shoal off it, extending a quarter of a mile out.

LITTLE PLACENTIA HARBOUR.—This harbour runs in to the southward from Point Roche; and S.E. by E. $\frac{1}{2}$ E. from Point Roche, distant 2 miles, is the opposite, or Fox's Point, which may be considered to be the eastern entrance to Placentia Sound. The harbour of Little Placentia lies on the western side of this sound, and extends W. by S., about $1\frac{1}{2}$ miles, and is nearly half a mile broad.

There is excellent anchorage in this harbour, in a cove on the north shore; this cove may be known by the west point being woody, and the land to the eastward being barren. Off the east point of the cove lies a shoal for nearly one-third of the distance over to the south side of the harbour; in this cove are 7 and 8 fathoms water.

Placentia Sound is an arm which runs in nearly a league to the eastward; it has deep water, but is little frequented. Fox's Harbour is a small sandy cove, fit only for boats.

From Point Latina to Ship Harbour, the course is E., distance $5\frac{1}{2}$ miles; this harbour runs up northerly $2\frac{1}{2}$ miles, and is about half a mile broad. The best anchorage is in a cove on the west side, in about 10 fathoms water, at about a mile from the entrance.

Fox Island is small and round, and lies N.E. $\frac{1}{2}$ N. one league from Point Latina, and N.W. by W. the same distance from Ship Harbour Point, a low stony point, about $1\frac{1}{2}$ miles to the westward of Ship Harbour. Between Fox Island and Ship

Harbour Point is a range of rocks, which in bad weather break almost across; between the rocks are 2½, 6, 7, and 10 fathoms water. N.N.W., ¾ miles, from Fox Island, is a steep rock above water, named Fishing Rock; and N.N.E., 1½ miles from Fishing Rock, lies a sunken rock, named Rowland's Rock, which almost always breaks.

THE RAM ISLANDS.—These are a cluster of high islands, lying about 3 miles to the N.E. ½ E. of Fox Island. Long Harbour lies on the eastern side of these islands, and there is not the least danger in sailing into it. The best anchorage is on the northern side, to the eastward of Harbour Island, between it and the main, where you will lie secure from all winds in 6 or 7 fathoms water.

The shore from Long Harbour runs N.N.E., N. by E., and North, a distance of fully 15 miles, in which space there is not the least shelter for vessels, nor scarcely for boats, until you reach Little Harbour, Little South Harbour, and Great South Harbour. There are said to be several low islands and rocks within this space: one of which, named the White Rock, from being covered with the dung of birds, lies N.E. by N. from Point Latina, distant 18 miles, and directly midway between Fox Island and Little Harbour. It is situated abreast of a small place, named Tinny Cove, and fully 2 miles off the land: vessels pass on either side.

Little Harbour is small, with 7 fathoms water; the ground is bad, and lies entirely exposed to the S.W. wind, which heaves in a very great sea.

LITTLE SOUTH HARBOUR lies one mile to the north-westward of Little Harbour, and has before its entrance several rocky islands. In sailing into the harbour, you must leave these islands on your starboard hand, except one, on either side of which is a safe passage of 15 fathoms water. On the southern shore, within the islands, is a sunken rock, about one cable's length from the shore, which generally breaks; nearly opposite are also some rocks, about a cable's length from the shore, that show at half-ebb. This harbour is about 1½ miles long, and half a mile wide, with 7 fathoms water, good bottom.

GREAT SOUTH HARBOUR lies about a mile to the northward of Little South Harbour. There is no danger in sailing into it; and near the head is very good anchorage in 6 and 7 fathoms water. To the westward of Great South Harbour is Isle au Bordeaux, a high round island near the main.

COME-BY-CHANCE HARBOUR.—The entrance into Come-by-Chance Harbour lies N.N.E. 4 miles from Isle au Bordeaux, and runs up N.E. by E. 3 miles. In it are from 30 to 3 fathoms water, sandy bottom; but it is entirely exposed to the S.W. wind, which heaves in a very great swell.

NORTH HARBOUR.—The entrance of this harbour lies about 3 miles N.N.W. from the entrance of Come-by-Chance. About two miles from the entrance there is good anchorage in 7 fathoms water, and no danger in sailing in.

PIPER'S HOLE.—The entrance to Piper's Hole lies N.W. by N. 2½ miles from the entrance to North Harbour. The channel lies between Sound Island and the main, and in it you will have 19, 15, and 13 fathoms, and when to the northward of the island 8, 7, and 6 fathoms. From hence Piper's Hole runs up to the northward full 5 miles; but the water is shallow and unfit for shipping. Sound, Woody, and Barren Islands lie in a south-westerly direction from Piper's Hole, and between them and the north-western shore there is a channel half a mile wide, in which are from 7 to 20 fathoms, and good anchorage all the way. There is a passage with from 7 to 16 fathoms between Woody and Barren Island, in which there are 40 and 50 fathoms. There is a small cove, named La Plant, opposite the northern part of Barren Island, but it is fit only for boats. Barren Island is about 3½ miles in length, and one in breadth; it is high land, and there is a small cove at its south-eastern part, in which tolerable anchorage may be got in from 8 to 16 fathoms. Gulsh is an unimportant inlet lying N.W. by W. from the southern part of Barren Island; and farther S.W. are Great and Little Sandy Harbours.

GREAT SANDY HARBOUR.—At the distance of 4 miles W. ½ S. from the south end of Barren Island lies Great Sandy Harbour, to which there is a passage between Ship Island and the main, with 7, 9, and 17 fathoms water. The entrance into the harbour is very narrow, and is much encumbered with rocks, which are all above water, and have channels between them; but when you get within the harbour there are 6 and 7 fathoms, and good shelter.

LITTLE SANDY HARBOUR is one-quarter of a mile to the southward of the Great Harbour. In it you have 6 and 7 fathoms water, good bottom; but in sailing in, you should pass to the northward of a low rock, which lies at the entrance.

This harbour may be known by the island named Bell Island, which lies S.E. $\frac{1}{2}$ E. 1 $\frac{1}{2}$ miles from the mouth of it, and N.E. by N. 18 miles from the west point of Merasheen Island. Off the south point of the island is a remarkable rock; and the island itself is said to resemble a bell with the bottom upwards—hence the name.

To the S.W. by S. from Bell Island lie the Burgeo Islands, and farther to the southward the White Islands.

CLATISE HARBOUR.—This harbour is situated on the main within the Great Isle of Valen, and its entrance lies S.W. by W. about 5 miles from the Burgeo Islands. The shore all along from the Sandy Harbours is steep-to, and the passage to the harbour is about three-quarters of a mile wide, with 40 and 50 fathoms water; but the cove itself is very narrow. The best anchorage is in the western branch, which is a mile long, but not a quarter of a mile broad; in it are from 10 to 17 fathoms water, good bottom. Between Great and Little Valen Islands and the main, there is also a good channel from the southward, with 30, 30, and 50 fathoms in it.

Grammer's Rocks are a cluster of low rocks, above water, lying E. by N. $\frac{1}{2}$ N. $\frac{1}{2}$ miles from the northern end of Great Valen Island. Between Great and Little Valen Islands there is a passage, which is, however, encumbered with several rocks.

MERASHEEN ISLAND.—This island is high and very narrow and runs to the N.E. by E. rather more than 5 leagues. At the south-western part is a small but very good harbour, in which are from 6 to 10 fathoms water. To sail into it, keep the starboard shore on board, in order to avoid a broken rock lying one cable's length off, a ragged rocky point on the port hand going in. A small cluster of rocks lies off the south-eastern part of Merasheen, three-quarters of a mile from shore; these lie between it and Red Island. A large cluster of rocks and islands, named the Ragged Islands, lie off its northern shores.

RED ISLAND.—Red Island is high and barren, about 4 $\frac{1}{2}$ miles long, and 2 $\frac{1}{2}$ miles broad. Its south point lies N.N.W. 11 miles from Placentia Road, and E. by N. 16 leagues from Morder Head. On the east side, near the northern end, is a small harbour, which is only fit for shallops. At the distance of 7 miles, directly N.E. from Red Island, lies the main body of Long Island; and midway between them is Woody Island, off the S.W. end of which are two small rocks above water. With the exception of these two rocks, the passage between Red and Woody Islands is clear from dangers, and nearly 8 miles wide. The channel between Woody and Long Island is 3 miles wide, and is represented to contain deep water.

LONG ISLAND.—From Point Latina to the south point of Long Island, the course is N. $\frac{1}{2}$ E. 18 $\frac{1}{2}$ miles. Its length is nearly 8 leagues, but its breadth is nowhere much above one mile. The southern point of the island is formed of remarkably high steep rocks; and off it lie Iron Island and a small rock above water.

On the eastern side of Merasheen Island, at 4 miles N.W. by W. from the southern point of the island, is Indian Harbour, formed by a small island, on either side of which is a safe passage. The only anchorage is to the westward of the island, between it and Merasheen, and here the ground is uncertain.

Harbour Buffet lies on the east side of Long Island, about 2 $\frac{1}{2}$ miles from the south point, and is tolerably good: the entrance to it is narrow, but has 15 fathoms water in it. There are two arms in this harbour, one running to the westward, the other to the northward: the best anchorage is in the north arm; in about 15 fathoms water. This harbour may be known by the islands that lie in the entrance, and to the southward of it, and by Harbour Buffet Island, which lies E. $\frac{1}{2}$ S. one mile from the entrance. To sail into it you must pass to the northward of the islands at its mouth.

About 4 miles from the south point of Long Island, on the western side, lies Muscle Harbour. The entrance into the harbour lies between a low green point on your starboard hand, and a small island on your port hand. The harbour is 1 $\frac{1}{2}$ miles long, and one broad, and in it are 10 to 22 fathoms water, rocky bottom. Vessels steering for this place may run in between Woody and Iron Islands from the southward, or between Long and Merasheen Islands from the northward; but in the latter track there are some rocks to be guarded against, which lie nearly mid-channel between the northern ends of both islands. There are also some rocks above water

to the north-eastward of Long Island, called the Bread and Butter Islands, but these are always visible, and steep-to.

At the distance of 4 miles, W.N.W. $\frac{1}{2}$ N., from the south-western point of Merasheen Island, lies the little harbour of Presque, in which the water is sufficiently deep, but there are so many rocks about its entrance, that access to it is rendered very difficult. The Black Rock lies 3 miles S.W. $\frac{1}{2}$ W. from Presque, and a quarter of a mile within this rock there is a sunken rock. The Island of Marticot lies 2 miles west from the Black Rock, and is about a mile in length, and half a mile broad. The harbours of La Perche and Little and Great Paradise lie within the Black Rock and Marticot Island.

LA PERCHE runs in to the northward of the Black Rock. There is no safe anchorage in it, the ground being bad, and the harbour itself lying entirely exposed to the south-east winds. To the northward of the east point of Marticot Island and to the westward of La Perche lies Little Paradise, in which the only safe anchorage is in a cove, at the head of the harbour, on the port side, where you may moor to the shore, and lie land-locked. The harbour of Great Paradise is only fit for boats, and lies to the westward of Little Paradise. Between Marticot and the main is Fox Island: there is a safe passage for vessels between these islands, with not less than 9 fathoms water, but there is no passage between Fox Island and the main.

PARADISE SOUND.—About a mile to the westward of Fox Island, is the entrance to Paradise Sound, which runs up N.E. by E. $\frac{1}{2}$ leagues, and is about a mile broad. There is very deep water in it, but until you get near its head, there is no safe anchorage. Just within the entrance on the east side is a cove, in which there are 10 fathoms, and several rocks above water, but it is not safe to anchor, the bottom being rocky. There is a sunken rock, which must be avoided, in passing to the north-westward of Fox Island. Long Island lies to the south-westward of Paradise Sound, and runs W.S.W. $\frac{1}{2}$ S. about $3\frac{1}{2}$ miles: it is, for the most part, high land, making in several peaks.

Petit Fort Harbour lies at the distance of a mile to the westward of Paradise Sound. It is a very good harbour, having in it from 14 to 7 fathoms water, good bottom. The entrance is rather more than a quarter of a mile wide, and lies N.E. 3 miles from the south point of Long Island, and N. by E. $2\frac{1}{2}$ miles from the north point of Long Island. There is not the least danger in sailing into this harbour: the best anchorage is on the starboard side. The S.E. winds heave in a great swell on the west shore when they blow hard.

About $1\frac{1}{2}$ miles to the westward of Petit Fort Harbour lies Nonsuch Harbour, about the mouth of which there are several islands, but no safe anchorage till you get within all of them.

Cape Roger Harbour lies at the distance of $1\frac{1}{2}$ miles to the westward of Nonsuch Harbour, and close to the westward of Cape Roger, a high round barren head, lying N. $\frac{1}{2}$ E. $3\frac{1}{2}$ miles from the south point of Long Island. There are several low rocks and islands lying off the east point of the entrance. In the harbour, at a quarter of a mile within the entrance on the west side, there is a small island having to the northward, between it and the main, very good anchorage in 7 or 8 fathoms water; or you may run farther up, and anchor in 6 or 7 fathoms.

Two miles N.N.W. from the south point of Long Island, lies a small inlet named Green Island, with a shoal all round it, to nearly a cable's length.

GREAT GALLOWES HARBOUR.—From Green Island N.N.W. $2\frac{1}{2}$ miles, lies Great Gallowes Harbour Island, which is a high land. Vessels may pass on either side of this island into Great Gallowes Harbour, which lies one mile to the E.N.E. of the island. In this harbour is exceedingly good anchorage in 7 fathoms water, on the starboard side, just within a low atony point, taking care to give the point a small berth, in order to avoid a rock covered at high water.

Little Gallowes Harbour lies close round to the eastward of Great Gallowes Harbour, and is only fit for small vessels, which must lie moored to the shore, above a rock which is above water, on the port hand. A narrow neck of land only divides the two harbours. Little Gallowes Harbour Island lies before the mouth of the harbour.

Little Harbour is the first harbour to the westward of Great Gallowes Harbour, but it is only fit for boats.

BAY DE L'EAU lies to the westward of Little Harbour, and runs to N.E. $\frac{1}{2}$ E.



rather more than a league. There is deep water in it all the way up, except at its head where there appears a sandy beach; here vessels may ride in 3 fathoms.

Boat Harbour lies round the western point of Bay de l'Eau, off which is a rock above water. It runs up N.E. one league, and has deep water to within half a mile of the head. The coast from Boat Harbour, runs south-westward to Bane Harbour, which lies on the main and is fronted by several islands, the largest of which, named Cross Island, is high and woody and about $2\frac{1}{2}$ miles in length, by one in breadth. Between Cross Island and the main are several other islands.

BANE HARBOUR is an exceedingly good harbour for small vessels: the passage into it is very narrow, and has in it 2 fathoms water, but when in there is sufficient room to moor in 3 fathoms, good bottom. Between all these islands there are good channels, by which vessels may pass to the harbours to the northward. Rashoon lies $1\frac{1}{2}$ miles S.W. from Bane Harbour, but is too shallow for any vessel; and about the same distance from Rashoon is Broad Cove, lying to the north-eastward of a point of land which juts out, named Broad Cove Head. In Broad Cove there is very good anchorage, in 8 or 9 fathoms water.

RED HARBOUR is a good harbour lying at the distance of 3 miles from Broad Cove Head. In it are 17, 18, and 9 fathoms, but it is too open to the southward. At the distance of $3\frac{1}{2}$ miles S.W. from Red Harbour, and situated on the main, is John-the-Bay; in your passage to which, and nearly mid-channel, between Flat Islands and the shore, is a cluster of small islands, with deep water all round them; and farther on, near the land, is a rock above water, on either side of which you may sail. The channel between it and the land is narrow, and has 17 fathoms; that on the eastern or outer side, has 18, 25, and 26 fathoms, and leads directly out to Placentia Bay.

AUDIERNE ISLAND lies half a mile to the northward of Cape Judas or Middle Island, and has on its west side a tolerably good harbour. Vessels bound for this harbour may pass between Cape Judas and Audierne Island, and between Crow and Patrick's Island, two small islands lying off the S.W. point of Audierne Island. About one cable's length from Audierne Island, to the southward of the harbour, is a sunken rock; the mark for clearing it, when coming from the southward, is not to haul in for the harbour till you open a remarkable green point on the south side of the harbour. The best anchorage is on the north shore, just within a small island. A spit of rocks, covered at high water, stretches off the Green Point on the south shore.

Off the eastern point of Audierne Island is a small island, named Ford's Island, having a sunken rock on its western side at about a cable's length distant, and another on the east side; both of which almost always break.

At $1\frac{1}{2}$ miles W. by N. from Ford's Island lies Green Island, off which is a little rocky islet, and another off its western end. There is deep water all round it, 11 fathoms close to the rocky islets, 70 fathoms between it and Ford's Island, 73 and 60 fathoms between it and Long Island, and still deeper water towards the Gallows Harbour.

The Saddle-back is a small island lying E.N.E. $\frac{1}{2}$ E. $\frac{1}{2}$ leagues from Corbin Head; E. by N. 16 miles from Mortier West Point; and E. by S. 3 leagues from John-the-Bay Point. This is the outermost of a great number of rocks and small islands lying between it and the main, thereby rendering this part of the coast very dangerous. There is a chain of rocks stretching $1\frac{1}{2}$ miles to the N.E. by E. from the Saddle-back.

CAPE JUDAS, or MIDDLE ISLAND, is an island about $2\frac{1}{2}$ miles in length, and 2 in its greatest breadth. It lies $1\frac{1}{2}$ miles to the north of the Saddle-back, and has on its south end a remarkable round hill, named the Cape. Between this island and the main is a cluster of islands and low rocks, with a great number of sunken rocks about them, named the Flat Islands, the innermost of which lies about a mile from the main.

At $3\frac{1}{2}$ miles W. from the south-eastern Flat Island, and 3 miles to the N.N.W. of John-the-Bay Point, lies John-the-Bay, in which is tolerably good anchorage in about 8 fathoms water, with sandy bottom.

From John-the-Bay Point to Mortier East Point the course is S.W. $\frac{1}{2}$ W., distant 8 miles. At 3 miles S.W. by W. from John-the-Bay Point is Bock Harbour, which is fit only for boats, on account of the infinite number of rocks in it, both above and

under water. Between John-the-Bay Point and Rock Harbour, lie two sunken rocks, half a mile from the shore.

MORTIER BAY.—Two miles W.S.W. from Rock Harbour is the entrance into Mortier Bay. On the west side of the entrance is a small harbour, named Beaubois, in which there are only 9 feet at low water. The course into Mortier Bay is N.N.E. for about 2 miles, and in it there are from 50 to 70 fathoms water, the land on each side being high; it then runs to the westward about 2 miles, and is nearly 2 miles wide. In the S.W. corner of the bay is a river, which runs to the S.W. about 5 $\frac{1}{2}$ miles. On the east side, at about 3 miles from the entrance, is an exceedingly good harbour, named Spanish Room, in which you may anchor in from 4 to 6 fathoms water, good bottom, and lie secure from all winds: There is not the least danger in sailing into this harbour, giving the low rocks above water at the entrance on the port hand a berth of one cable's length.

Croney Point and Island lie about 2 $\frac{1}{2}$ miles from the entrance of Mortier Bay. At about 2 miles farther southward, and about a mile westward of Mortier East Point, is Little Mortier Bay, on the west side of which, near the entrance, is a small round island, named Mortier Island, which is bold to all round, and may be passed on either side. Close to the first point, beyond this island on the same side, is another small island, and about 3 cables' length from this island, in a line from Mortier Island, is a sunken rock, on which the sea breaks in bad weather. At the bottom of the bay, on the east side, lies Fox Cove, in which is very good anchorage, and room for one ship to moor in 9 fathoms, good holding ground; this cove is open to the sea, from S.S.E. to S.E. The harbour of Little Mortier lies on the west side, and is a tolerable place for small vessels, but they must moor to the shore: in the entrance you have 7 fathoms water, but only 2 in the harbour; off the starboard point, going in, is a rock which is covered at high water.

Mortier West-Head lies 1 $\frac{1}{2}$ miles S.W. by W. from Mortier East Point, and a mile beyond it is Iron Island. At 2 leagues S.E. $\frac{1}{2}$ E. from Iron Island, and S.W. $\frac{1}{2}$ W. 5 leagues from Cape Judas, lies the Mortier Bank, the shoal part of which is about one league over, and has not more than 4 fathoms on it. In bad weather the sea breaks very high on it.

Iron Island is a small high island. There is a rock under water off its S.W. point; at three-quarters of a mile to the southward of it is Gregory's Rock; S. $\frac{1}{2}$ W. a quarter of a mile from which is a shoal named Galloping Andrews; and S.E. by E. one mile from Iron Island is the White Horse, a shoal having 8 fathoms on it.

GREAT AND LITTLE BURIN HARBOURS.—The S.E. point of Great Burin Island lies S.W. $\frac{1}{2}$ W. one league from Iron Island; and W.N.W. 1 $\frac{1}{2}$ miles from it, is the north part of Pardy's Island. The harbours of Great and Little Burin lie on the main within these islands. Vessels bound for the harbours of Burin, may pass on either side of Iron Island, the only danger in passing to the northward being the ledge, named the Brandys, which almost always break; they lie nearly a quarter of a mile to the southward of a low rock above water, close under the land of Mortier West Head. If the wind should take you ahead after you are within Iron Island, take care to keep Mortier West Head open to the westward of Iron Island, in order to avoid Gregory's Rock, on which are only 2 fathoms water, and which generally breaks. Vessels may pass with safety between this rock and Iron Island, taking care to give Iron Island a berth of one cable's length.

On the main, within Pardy's Island, are two conspicuous white marks in the rocks, the northernmost of which brought on with the north part of Pardy's Island and Iron Island N.E. $\frac{1}{2}$ N., will lead on the Galloping Andrews, a shoal with 5 fathoms of water on it.

Great Burin Island lies N.N.E. and S.S.W.; it is 3 miles long, and high land. About a quarter of a mile from the easternmost part of Great Burin Island lies the Dodding Rock; and near the south end of the island is Cat Island, which is high and round, and lies E.N.E., about 4 miles, from Corbin Head. From Corbin Head to Shalloway Point the bearing and distance are N.E. $\frac{1}{2}$ N. 4 $\frac{1}{2}$ miles. Between them, and nearly in the same direction, lie Corbin and Little Burin Islands, both high and round, not more than a cable's length from the shore.

Shalloway Island lies N.N.W. $\frac{1}{2}$ W. nearly a mile from Cat Island, and N.E. by E. a quarter of a mile from Little Burin Island: the passage into Burin Harbour, from the southward, lies to the westward of Shalloway Island.

In sailing in, take care to give Poor Island a berth on your port hand; and when within Shalloway Island, you may anchor in safety between it and Great Burin Island, in from 12 to 18 fathoms. The best anchorage in Great Burin Harbour is in Ship Cove. The course up to it, after you are within Neck Point, which is to the westward of the Shalloway Island, is N.N.E. about $1\frac{1}{2}$ miles. It is about a quarter of a mile wide. In sailing up, keep the west shore on board, in order to avoid a sunken rock on the eastern shore, at about half way up, and about a cable's length from the shore. Directly off this there is a remarkable hole in the rock, on the same side; and a gully in the land, from top to bottom, on the western shore. Another rock, with 24 fathoms on it, lies above a cable's length to the S.W. of Harbour Point, which is round and green, and of moderate height, joined to Great Burin Island by a low, narrow, sandy neck.

Burin Bay is about a mile N.N.E. of Little Burin Island: it is clear, and about a mile wide every way: here ships may occasionally anchor, and lie almost land-locked. In this bay are two islands, one called Poor Island, low and barren; the other, which is high and woody, lies to the northward, before the entrance of Burin Inlet.

BURIN INLET may be entered on either side of the island; it extends up 5 miles: a little within the entrance on the east side, half a cable's length from the shore, is a rock covered at three-quarters flood; and $1\frac{1}{2}$ miles from the entrance, near the middle, is another rock, to the westward of which is good room, and good anchorage, in from 7 to 12 fathoms. There are 16 fathoms in the entrance; and, in the middle, two miles up, 15 to 23 fathoms; and thence up to the head are from 10 to 5 fathoms.

The east passage in is between Pardy's Island and Iron Island; but is not safe without a commanding wind, between the N.N.E. and S.E.

Corbin Harbour is about a mile to the northward of Corbin Head, and is a good harbour for small vessels. At a quarter of a mile eastward from this harbour, and 2 cables' length from the shore, is a sunken rock, of 5 or 6 feet water, on which the sea breaks in bad weather. Vessels bound for this harbour must also avoid a shoal of 2 fathoms water, which lies E.S.E. from the south point of the entrance about half a mile. The best anchorage is in the north arm, about half a mile within the entrance, opposite a cove on the starboard side.

Sauker Head is a high hill in shape of a sugar-loaf, off which, to the south-westward, lies a small rock, under water, close in with the land. From Sauker Head to Cape Chapeau Rouge, the bearing and distance are West, 4 miles; between lie the harbours of Great and Little St. Lawrence.

LITTLE ST. LAWRENCE lies to the eastward of the Great St. Lawrence. To sail into it you should keep the west shore on board, in order to avoid a sunken rock which lies a little without the point of the peninsula, which stretches off from the east side of the Harbour. The best anchorage is in 3 or 4 fathoms water, on a fine sandy bottom, above the peninsula, which shelters you from all winds; there is also anchorage without the peninsula in 12 or 14 fathoms, on good ground, but entirely open to the S.S.E. winds. In this harbour are good fishing conveniences, and plenty of wood and water.

GREAT ST. LAWRENCE.—This harbour lies close to the eastward of Cape Chapeau Rouge. To sail into it, you should be careful with westerly, and particularly with S.W. winds, not to come too near the Hat Mountain, in order to avoid the surries and eddy winds under the high land. There is no danger but what lies very near the shore, and the course in is first N.N.W. till you open the upper part of the harbour, then N. $\frac{1}{2}$ W. to the head of it. The best place for large ships to anchor is before a cove on the east side of the harbour, a little above Blue Beach Point, which is the first point on the west side; where you may lie in 12 or 13 fathoms water on good ground, only two points open. There is also anchorage anywhere between this point and the point of Low Beach on the same side near the head of the harbour, observing that the ground near the west shore is not so good as the ground on the other side. Fishing vessels lie at the head of the harbour above the beach, sheltered from all winds.

GARDEN BAY, on which there are from 7 to 17 fathoms water, lies about half a mile off the entrance of Little St. Lawrence, with Blue Beach Point on with the east point of Great St. Lawrence.

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CAPE CHAPEAU ROUGE TO CAPE RAY.

About one mile W.S.W. from Cape Chapeau Rouge is Ferryland Head, a high rocky island, just separated from the main; this together with Cape Chapeau Rouge serves as excellent marks for the St. Lawrence Harbour.

Laun Bay lies W.N.W. 5 miles from Ferryland Head, and has in the bottom of it two small inlets, named Great and Little Laun: the latter, which is the easternmost, lies open to the S.W. winds, and therefore is no place for anchorage. Great Laun lies in about N.E. by N. 3 miles; it is nearly half a mile wide, and has from 14 to 8 fathoms water: in sailing in, be careful to avoid a sunken rock, which lies about a quarter of a mile off the east point. The best anchorage is on the east side, about half a mile from the head, in 6 and 5 fathoms, tolerably good bottom, and open only to south and S. by W. winds, which cause a great swell. The head of this place is a bar harbour, where boats can ascend at half-tide, and find conveniences for fishing with both wood and water.

Laun Islands lie off the west point of Laun Bay, not far from the shore; the westernmost and outermost of them lies W.N.W., westerly, 10 miles from Ferryland Head. Nearly a quarter of a mile to the southward of this island is a rock, over which the sea breaks in very bad weather. There are other sunken rocks about these islands, but not dangerous, being very near the shore.

Taylor's Bay, about 3 miles to the westward of Laun Islands, is open to seaward. Off the point are some rocks, nearly a quarter of a mile from the shore.

Point Aux Gauls is a low, narrow point of land, which stretches out a little to the westward of Taylor's Bay. A rock, above water, lies off it at half a mile from the shore, named Gauls Shag Rock, which bears from Ferryland Head W.N.W. 4 W. 5 leagues: there are 14 fathoms close to the off-side of it, but some rocks on its inside.

From Point Aux Gauls Shag Rock to the Lamelin Islands, the bearing and distance are N.W. by W. a league: between is the Bay of Lamelin, which is unfit for shipping, being shallow, and having several islands and rocks about it. The river at the bottom of the bay abounds with salmon. Near the south point of the westernmost Lamelin Island is a rock high above water, named Lamelin Shag Rock.

From Lamelin Shag Rock to Point May, the distance is 8 miles: between lie the Lamelin Ledges, which are very dangerous, some of them being 3 miles from the land. To avoid them, in the day-time, you should not bring the Lamelin Islands to the southward of E.S.E. until Point May bears N.E. by N. when you may steer northward between Point May and Green Island with safety. By night, approach no nearer than in 30 fathoms water.

When navigating this part of the coast, it is well to observe the appearance of the land, for Chapeau Rouge and Laun are very high and hilly close to the sea; from Laun Islands to Lamelin, the land is only moderately high; but from Lamelin to Point May, near the shore, it is low, with beaches of sand, while inland it becomes mountainous.

St. Pierre.—The island of St. Pierre, lying at 11 leagues W. by N. from Cape Chapeau Rouge, is about 4 leagues in circuit, and barren in the extreme, consisting of a mass of rugged hummocks rising to a height of 400 or 500 feet directly from the sea, and destitute of trees. On coming from the westward, Galantry Head, the south-east point of the island, makes in a round hummock, and the land near it being low gives it the appearance of a small island; it may also be recognized by its fixed light, which is visible 18 miles off. The port is on the eastern side of the island, at only a mile to the north-westward of Galantry Head, and is bounded on the east by Olsen or Dog Island, eastward of which are two other islands, and several rocks. The passage in, between Dog Island and St. Pierre, is very narrow, and bordered with rocks, but in mid-channel are 6, 4, 3½, 5, and 6 fathoms. The harbour is small, and has from 20 to 13 feet water: but there is a bar across the entrance, with only 6 feet at low water, and 12 or 14 at high water.

The road lies on the N.W. side of Dog Island, and will admit ships of any burthen in 8, 10, or 12 fathoms water. The best anchorage is on the north side; but in general it is rocky, and exposed to the N.E. winds. Be cautious, in going in or out, of some sunken rocks, which lie about a mile E.S.E. from Vainqueur Island, which is the easternmost of the islands above mentioned.

Upon Canon Point, on the north side of the entrance to the inner harbour, in latitude $46^{\circ} 46' 52''$ N., longitude $56^{\circ} 7' 28''$ W., is a lighthouse, with a fixed light, about a quarter of a mile eastward of the town, which is kept up from the 1st May to the 15th November. With the lighthouse bearing W. by N. or W. $\frac{1}{4}$ N. about two cables' length, there is anchorage in 5 $\frac{1}{2}$ and 6 fathoms.

THE ISLAND OF COLOMBIER lies very near to the N.E. point of St. Pierre, and is rather high: between them is a passage one-third of a mile wide, with 12 fathoms water. On the north side of the island is a rock, named Little Colomblie; and about one quarter of a mile E.N.E. from it is a sunken rock, named Base du Colomblie, with 3 fathoms on it.

GREEN ISLAND is about three-quarters of a mile in circuit, and low: it lies E.N.E. about 5 miles from St. Pierre, and nearly in the middle of the channel between it and Point May, on Newfoundland. On its south side are several rocks above and under water, extending $1\frac{1}{2}$ miles to the W.S.W.

LANGLEY on **LITTLE MIGUELON**.—Langley Island lies to the N.W. of St. Pierre, with a passage of about 3 miles wide between, free from danger. It is about 8 leagues in circuit, of a moderate and equal height, excepting at the north end, which is a low point with sand-hills; off which, on both sides, it is flat a little way; but every other part of the island is bold-to. There is anchorage on the N.E. side of the island, near Seal Cove, in 5 or 6 fathoms, a little to the southward of the sand-hills, on a fine sandy bottom.

MIGUELON is joined to Langley, by a long, narrow range of sand-hills, having a beach on each side. Miguelon is 4 leagues in length from north to south, and about 5 miles in breadth at the widest part. The middle of the island is high land, named the High Lands of Dunne; but down by the shore it is low, excepting Cape Miguelon, which is a lofty promontory at the northern extremity of the island. On the S.E. side of the island is the little harbour of Dunne; a bar harbour admitting fishing-shallops at half-flood, but no way calculated for shipping.

Some rocks, named the Miguelon Rocks, extend off from the eastern point of the island, under the high land, $1\frac{1}{2}$ miles to the eastward; some are above and some under water; the outermost are above water, and there are 12 fathoms water close to them; with 18 and 20 a mile off. At N.E. $\frac{1}{4}$ E. about 4 $\frac{1}{2}$ miles from them, lies the Miguelon Bank, on which are 6 fathoms water.

The chief roadstead of the island is large and spacious: it lies towards the north end, and on the east side of the island between Cape Miguelon and Chapeau, which is a very remarkable round mountain near the shore, off which are some sunken rocks at a short distance, but everywhere else it is clear of danger. The best anchorage is in 6 or 7 fathoms, near the bottom of the road, on fine sandy bottom, but exposed to easterly winds, which bring in a heavy sea; the mark is, the signal-staff in one with the church, in such a position as to hide Soldier's Point by Chateau Point.

The Seal Rocks, two in number, are above water, and lie about $1\frac{1}{2}$ leagues off from the north-west side of Miguelon. The passage between them and the island is very safe, and there are 14 or 15 fathoms water within a cable's length all round them.

The islands of St. Pierre, Langley, and Miguelon, were ceded to France by England, on condition that no forts should be built on either; that no more than fifty men of regular troops should be kept there; and that they should have no military stores, or cannon capable of making a defence. During the late hostilities, these isles were annexed to the Government of Newfoundland, having been taken possession of by the British forces in May, 1793; but they have been restored to France, on the original conditions, by the treaty of 1814.

FORTUNE BAY.—Point May has a rocky islet at its point, and from thence the land turns N.N.E. towards Dantzic Cove and Point, and thence E.N.E. towards Fortune Head.

From Point May to Pass Island the bearing and distance are N. by E. 19 leagues. Between them is the entrance to Fortune Bay, which is about 24 or 25 leagues deep, and in which are numerous bays, harbours, and islands.

The Island of Brunet lies nearly in the middle of the entrance into Fortune Bay. It is above 5 miles in length, 3 in breadth, and of moderate height; the eastern part appears, in some points of view, like islands. On its N.E. side is a bay, wherein

there is tolerable anchorage for ships, in 14 or 16 fathoms water, sheltered from southerly and westerly winds. In the bottom of the bay, at about a quarter of a mile from the shore, are some rocks, which must be avoided. Opposite to this bay, on the south-west side of the island, is a small cove, with 6 fathoms water. The islands lying off the west end of Brunet, to the southward, are named the Little Brunets, and, with Brunet, may be approached within a quarter of a mile all round.

The Plate Islands are three rocky islets, of a moderate height, the nearest of which lies W.S.W. one league from the west end of Great Brunet. The southernmost is about 2 miles farther off, and bears from Cape Miquelon E. $\frac{1}{2}$ S. $8\frac{1}{2}$ leagues; and in a direct line between Point May and Pass Island, 17 miles from the former, and 19 miles from the latter. E.S.E., a quarter of a mile from the Great Plate (which is the northernmost) is a sunken rock, over which the sea breaks, and this is the only danger about them.

There are several strong and irregular settings of the tide, or currents, about the Plate and Brunet Islands, which seem to have no dependence on the moon and the course of the tides on the coast.

Sagone Island, which lies N.E., 2 leagues, from the east end of Brunet, is about a mile across each way, of a moderate height, and bold to all round. On its western side there is a small creek admitting fishing shallops, in the middle of the entrance to which is a sunken rock, rendering it difficult of access, except in very fine weather. A sand-bank surrounds this island, running westerly full 7 miles, upon which are 14, 17, and 20 fathoms water.

Point May, the southern extremity of Fortune Bay, and the S.W. extremity of this part of Newfoundland, may be known by a great black rock, nearly joining to the pitch of the point, and a little higher than the land, which makes it look like a black hummock on the point. At about a quarter of a mile from this black rock are three sunken rocks, over which the sea always breaks.

DANTZIC COVES.—N. by E. $1\frac{1}{2}$ miles from Point May is Little Dantzic Cove; and 2 miles farther is Great Dantzic Cove. From Dantzic Point (which is the north point of the coves) to Fortune Head, the bearing and distance are E.N.E. $2\frac{1}{2}$ leagues; and thence to the Villa of Fortune, $1\frac{1}{2}$ miles S.E. by E. This is a fishing-village; and the road where the ships lie has from 6 to 10 fathoms water, quite exposed to nearly half the compass. It lies S.S.W. from the east end of Brunet. To the N.N. westward of Dantzic Point is the long narrow Bank of Jerseyman's, with 24 and 25 fathoms over it, extending from abreast of the point in the direction of the Plate Islands.

The Cape of Grand Bank is high, and lies one league E.N.E. from Fortune. To the eastward of this cape is Ship Cove, where there is good anchorage for shipping in 8 or 10 fathoms water, sheltered from south, west, and north-westerly winds. Grand Bank lies S.E. half a league from the cape, and is a fishing-village, where there is no security for shipping, and the entrance is barred.

From the Cape of Grand Bank to Point Enragée, the course is E.N.E. $\frac{1}{2}$ E., distance 6 leagues. The coast between forms a circular bay, in which the shore generally is low, with several sandy beaches, behind which are bar-harbours, fit only for boats, of which the principal is Great Garnish, lying $4\frac{1}{2}$ leagues from the Cape of Grand Bank; it may be known by several rocks above water, lying before it, at 2 miles distance from the shore; the outermost of these is steep-to, but between them and the shore are several dangerous sunken rocks. To the eastward, and within these rocks, is Frenchman's Cove, a convenient place for the cod-fishery, where small vessels sometimes run in and anchor in 4 or 5 fathoms water, tolerably well sheltered from the sea winds. The passage in is situated to the eastward of the rocks that appear the highest above water; between them and some other lower rocks lying off to the eastward of the east point of the cove, there is a sunken rock nearly in the middle of the passage, of which you should be aware. The shore is bold all the way from Point May to the Cape of Grand Bank, there being 10 or 12 fathoms within 2 cables length, and 20 or 40, at a mile off: between the latter and Great Garnish, the water is not so deep, and ships may anchor anywhere in 8 or 10 fathoms water sheltered only from the land-winds.

From Point Enragée to the head of Fortune Bay, the course is, first, E.N.E. $\frac{1}{2}$ E., 2 leagues to Grand Jersey; then E. $\frac{1}{2}$ N., $7\frac{1}{2}$ leagues, to the head of the bay. The land,

in general, along the south side, is high, bold-to, and of uneven appearance, with hills and valleys of various extent, the latter abounding in wood, and having many fresh water rivulets.

At 7 leagues to the eastward of Point Enragée is Bay L'Argent, where there is anchorage in 30 or 40 fathoms water, sheltered from all winds.

The entrance of Harbour Millé lies to the eastward of the east point of L'Argent. Before this harbour and Bay L'Argent, is a remarkable rock, which, at a distance, appears like a shallow under sail. Harbour Millé branches into two arms, one lying to the S.E. the other to the East; at the head of both are good anchorages. Between this harbour and Point Enragée are several bar-harbours, or small bays, with sandy beaches, but the water all along the coast is very deep: you may safely anchor anywhere, but it must be very near the shore.

Cape Millé lies N.E. $\frac{1}{2}$ E. one league from the Shallop Rock, above mentioned, and nearly 3 leagues from the head of Fortune Bay; it is a high, reddish, barren, rocky point. The width of Fortune Bay at Cape Millé does not much exceed half a league; but, immediately below it, it becomes twice as wide, by which the cape may readily be known; and above this cape the land on both sides is high, with steep craggy cliffs. The head of the bay is terminated by a low beach, behind which is a large pond, or bar-harbour, fit only for boats. There are convenient places for building stages in this, and in all other bar-harbours between this and the Grand Bank, and good beaches for drying fish, available for the accommodation of numerous boats.

Grand le Pierre is a good harbour, situated on the north side of the bay, half a league from the head. The entrance cannot be seen until you are abreast of it. There is no danger in going in, and you may anchor in any depth from 8 to 4 fathoms, sheltered from all winds.

English Harbour lies a little to the westward of Grand Pierre; and to the westward of English Harbour is the Little Bay de l'Eau, both of which are small, and only fit for boats.

New Harbour is situated opposite to Cape Millé, and to the westward of the Bay de l'Eau. It is a small inlet, and has good anchorage on the west side, in from 8 to 6 fathoms, sheltered from S.W. winds.

The Harbour Femme lies half a league to the westward of New Harbour; it is narrow, and has in it 20 and 25 fathoms. Before its entrance is an islet, near to which are some rocks above water. One league to the westward of Harbour Femme is Brewer's Hole, fit only for boats, before which is also a small island near the shore; and some rocks above water.

Harbour La Conte is situated one mile to the westward of Brewer's Hole. Before this are some islands, the outer one of which is named the Petticoat Island, the inner, Smock Island. There are also two smaller ones between these, and one or two sunken rocks. The best passage in is on the west side of the outer island, and between the two large ones. As soon as you begin to open the harbour, keep the inner island close on board, to avoid some sunken rocks that lie near a small island, which you will discover between the N.E. point of the outer island, and the opposite point on the main; there is also another rock, appearing at low water, lying higher up on the side of the main; and when you get beyond these dangers, you may keep in the middle of the channel, and will soon open a fine spacious harbour, wherein you may anchor in any depth, from 6 to 16 fathoms water, on a bottom of sand and mud, sheltered from all winds. There is a small cove to the eastward of the outer island, which is fit for small vessels and boats, and otherwise convenient for the fisheries.

Long Harbour lies 4 miles to the westward of Harbour La Conte, and N.E. by E. $\frac{1}{2}$ E. distant 5 leagues from Point Enragée. It may be known by Gull Island lying at its mouth, and a small rock half a mile without the island, having the appearance of a small boat. There is a passage into this harbour on each side of Gull Island, the western one of which is the broader of the two, and has nearly in the middle, a little outside of the island, a ledge of rocks whereon are 2 fathoms water; and a little within the island, on the eastern side, are other ledges, on two sandy coves at 3 cables' length from the shore, and visible at low water. Long Harbour runs up 5 leagues into the land; but the only anchoring place is in Morgan's Cove, on the N.W. side of the harbour, about 3 miles within Gull Island, in 16 fathoms water, unless you run above the narrows. There is a salmon fishery at the head of the bay.

To the westward of Long Harbour is Hare Harbour, fit for small vessels only. Two

miles to the northward of Hare Harbour is Mal Bay, having very deep water, extending north-easterly about 6 miles, and having no anchorage except at its farthest end. To the westward of Mal Bay, near the shore, lie the Rencontre Islands, the westernmost of which is the largest, and has a communication with the main at low water. In and about this island is shelter for small vessels and boats.

Belle Harbour lies 4 miles N.W. by N. from the largest of the Rencontre Islands. The passage into it is on the western side of the island; and so soon as you have passed the islands, you will open a small cove, on the east side, where small vessels can anchor, but large vessels must run up to the head of the harbour, and anchor in 20 fathoms, where there is most room; it is but an indifferent harbour. About 1½ miles westward of Belle Harbour is Lally Cove, behind an island, fit for small vessels only; the west point of this cove, named Lally Head, is high and bluff. To the northward of this head is Lally Back Cove, where ships may anchor, in 14 or 16 fathoms water.

Two miles to the northward of Lally Cove Head, are East Bay and North Bay, in both of which there is deep water, but no anchorage near the shore. At the head of North Bay is the largest river in Fortune Bay, which appears to be a good place for the salmon-fishery, and hence is named Salmon River.

CINQ ISLES BAY lies to the southward of the North Bay, opposite to Lally Cove Head, and affords tolerably good anchorage for large ships on the S.W. side of the islands, in the bottom of the bay. The north arm is a very snug place for small vessels, and salmon may be caught at its head.

A little to the southward of the Bay of Cinq Isles is Corben Bay, where there is good anchorage for any ships in 23 or 24 fathoms water.

About 2 miles south-eastward from Lally Cove Head are two islands, bold to all round, about a mile distant from each other. The north-easternmost of these is named Belle Island, and the other Dog Island. Between Dog Island and Lord and Lady Island, which lies off the south point of Corben Bay, something nearer to the latter, is a sunken rock, with deep water all round it; and about a quarter of a mile to the northward of Lord and Lady Island, is a rock which appears at low water.

BANDE DE L'ARIER BAY lies on the west point of Belle Bay, and N. ½ W. 3 leagues from Point Enragée. It may be known by a very high mountain over the bay, which rises almost perpendicularly from the sea, named Iron Head; Chapel Island, which forms the east side of the bay, is likewise high. The harbour lies on the west side of the bay, just within the point formed by a narrow low beach, and is a snug place. Between the harbour and Iron Head there is tolerably good anchorage in 18 or 20 fathoms.

Bande de L'Arier, or Bellorum Bank, has 7 fathoms water on it, and lies with the beach of Bande de L'Arier Harbour just open of the west point of the bay, and Boxy Point on with the north end of St. Jacques Island.

Two miles to the westward of Bande de L'Arier is the harbour of St. Jacques, which may be readily known by the island before it being high at each end, and low in the middle. The passage into the harbour is on the west side of the island, free from danger, as is the harbour, where you may anchor in from 17 to 4 fathoms.

About 1½ miles to the westward of St. Jacques is the harbour of Blue Pinion; and a little to the westward of that is English Cove.

BOXY HARBOUR.—Boxy Point lies W. ½ S. 6 miles from St. Jacques Island, and E.N.E. ½ E. 1½ miles from the east end of Brunet Island. It is of a moderate height, and is the point most advanced to the southward of any land on this shore of Fortune Bay. Boxy Harbour lies N.E. 3 miles from Boxy Point, in which there is anchorage, in 4 or 5 fathoms water, fine sandy ground: to sail in, bring Boxy Point open of a little black head just within the point named Friar's Head; as by following this direction you will keep the middle of the channel, and between the shoals which lie off each point of the harbour where the stages are.

W.N.W. one mile from Boxy Point is the island of St. John, and N.N.W. ½ a league from St. John's Island, is St. John's Head, high, steep, and craggy. Between St. John's Head and Boxy Point is St. John's Bay, quite exposed; in the bottom of it is the harbour, fit for boats only. On the north side of St. John's Head are two rocky islets, named the Gull and Shag, having at their west end several sunken rocks.

Great Bay de L'Eau is about 1½ league to the northward of St. John's Head. In this bay there is good anchorage in various depths, sheltered from all winds.

The passage in is on the east side of the island, which lies in its entrance; for only very small vessels can enter to the westward.

To the westward of Bay de L'Eau, about 3 miles north from St. John's Head, is Little Bay Barryway, on the west side of which there is good anchorage for large ships in 7, 8, or 10 fathoms; and both wood and water can be obtained with ease.

Harbour Briton lies to the westward of Little Barryway, and N.N.E. $\frac{1}{2}$ league from the island of Sagona. The heads which form the entrance are high, and lie from each other S.E. and N.W., distant about 3 miles. Near the east head is a rock above water. The only danger in going in is a ledge of rocks, stretching 2 cables' length from the south point of the S.W. arm, which is more than a mile within the west head. The only place for ships-of-war to anchor in is above this ledge, before the entrances of the S.W. arm, in 16 or 18 fathoms, mooring nearly east and west; the bottom is very good, and plenty of wood and water are to be obtained here. Opposite to the S.W. arm is the N.E. arm, or Jerseyman's Harbour, which is capable of holding a great number of ships, secure from all winds, in 6, 7, and 8 fathoms water: it has a bar at the entrance, on which there are 8 fathoms. The mark to sail over the bar, is the point of Thompson's Beach, which is the south point at the entrances into the S.W. arm, open of Jerseyman's Head, which is high and bluff, on the north side of the entrance into Jerseyman's Harbour; as soon as you open the harbour, haul up to the northward, and anchor.

From the west end of Harbour Briton to Connaigre Head, the bearing and distance are W. $\frac{1}{2}$ N., 6 miles; between are Gull Island and Deadman's Bay, off which there is a bank stretching from the shore, between 2 and 3 miles; whereon the depths vary from 34 to 4 fathoms. The sea, during storms, will sometimes break for a considerable way out from Gull Island.

CONNAIGRE BAY.—From Connaigre Head, which is high and craggy, to Baseterre Point, the bearing and distance are N.W. $\frac{1}{2}$ W. 7 miles; between is Connaigre Bay, running about 4 leagues inland. In the mouth of the bay lie the Connaigre Rocks, above water, which may be approached very near, there being no danger but what shows itself; the channel between them and Connaigre Head is the safest, as a ledge of rocks extends a mile from the north shore, which renders the other channel rather dangerous.

Connaigre Harbour is nearly 5 miles above the head, within a point on the south side of the bay; it is very small, and the depth of water is 7 fathoms. The passage in is on the S.E. side of the island which lies before it. Abreast of this harbour, nearly in the middle of the bay, are two islands; and on the south side of the westernmost are some rocks above water.

Dawson's Cove is on the N.W. side of the bay, and bears N.N.E. about 4 miles from Connaigre Head, and W.N.W. 2 miles from the west end of the largest and westernmost island; the anchorage is in 6 or 5 fathoms, quite exposed to southerly winds.

Baseterre Point, which forms the west point of Connaigre Bay, is of moderate height, clear of wood, and bold-to; the shore from thence to Pass Island is, likewise, bold-to. Pass Island lies nearly W. by N. distant 3 miles from Baseterre Point.

Pass Island is the north-western extremity of Fortune Bay; it is a full mile in length and narrow. From the north point of Miquelon it bears N.E. by N. 1 league, and from Point May N. $\frac{1}{2}$ E. $\frac{1}{2}$ leagues. It is high and lies near the shore. On its south-western side there are several rocks above water, which extend fully a mile from the island, and to the N.W. is a sunken rock about a quarter of a mile from it. There is a passage between this island and the main, about 3 cables' length wide, which is frequently traversed by small vessels, where they sometimes anchor, on a fine sandy bottom, in 5 fathoms water. The cod-fishery about this part is generally considered good and productive.

The general appearance of the land on the northern side of Fortune Bay is hilly, rising directly from the sea, with craggy barren hills, extending 4 or 5 leagues inland, having many rivulets and ponds, while that on the southern side of the bay has a very different appearance, having less of those rugged hills, and being better clothed with wood of a short bristly kind, giving to the country a green and fertile appearance.

In the night time, or in dark foggy weather, too much dependence should not be placed on the soundings in Fortune Bay, as in many places, the water near the

shores, and in the creeks and harbours, is often deeper than in the middle of the bay itself.

HERMITAGE BAY.—This extensive bay is bounded on the S.W. by Pass Island, and to the northward by the islands that form the Bay of Bonaparte and Great Jarvis Harbour, and by the southern shores of Long Island, where it begins to narrow. At its entrance it is more than 3 leagues in width. In sailing along the southern coast from Pass Island, you will discover the Fox Islands, which are distant from Pass Island 10 miles. These islands are situated opposite to the entrance to Hermitage Cove, about three-quarters of a mile from the land, and are said to have good fishing about them. Off the northern Fox Island are several rocks above water, and a sunken rock lies also off the south side of this island. To enter Hermitage Cove, you should keep between the islands and the shore, borrowing somewhat towards the main land, where you will find 30, 32, and 37 fathoms water; here you will see the cove open, and may turn in south, having deep water and without the least danger; the anchorage is good, with every convenience for fishing, and plenty of both wood and water. From hence Hermitage Bay runs in nearly west for 12 miles, with very deep water, until you get near the head, where it gradually lessens to 25 and 23 fathoms, and farther in to 9 fathoms; there is a small islet of two on the southern side, but no danger whatever.

Long Island, separating the Bay of Despair from Hermitage Bay, is of a square form, about 8 miles long and nearly 8 leagues in circuit. The eastern passage is very good, but narrow, and is between the east end of Long Island and the main; it is named the Passage of Long Island. The west entrance into the Bay of Despair, from Hermitage Bay, is by the west end of Long Island. About half a mile from its S.W. point are two rocks, above water, with deep water all round them.

There are four harbours on the south side of Long Island, the easternmost of which, named Galtius, is but small, and lies near the south-east point of the island. The best channel into the harbour is on the west side of several rocky islands which lie at the entrance, wherein are 4 fathoms, but in the harbour there are from 15 to 24 fathoms.

The next is Picarro, which lies N. by E. half a league from the easternmost Fox Island. In entering this harbour keep near the west point, in order to avoid some sunken rocks off the other. The anchorage is in the first cove on the east side, in 9 or 10 fathoms, sheltered from all winds.

Round Harbour is the next, and is about two miles to the westward of Picarro. It is fit only for small vessels, the channel in being so narrow.

Long Island Harbour is the fourth, and lies about 2½ miles from the west end of Long Island. This harbour has two arms, one running N. to the north, the other to the eastward; they are both very narrow, and have from 40 to 7 fathoms water: the western arm is the deeper, and affords the best anchorage. The passage in is on either side of an island which lies off the entrance, and has several rocks above water about it.

BAY OF DESPAIR.—The entrance of the Bay of Despair lies between the west end of Long Island and Great Jarvis Island (which lies in the mouth of the harbour of that name). The distance between is 1½ mile, and mid-way no bottom is found with a line of 350 fathoms. The Bay of Despair forms two spacious arms, one extending full 8 leagues to the north-eastward, the other about 18 miles northward. In the N.E. arm are several arms and small islands, and tolerably good anchorage in several places: in the north arm there is very deep water and no anchorage excepting in the small bays and coves which lie on each side of it; but in an arm of this bay which runs easterly, there is a fine salmon-fishery, and wood in abundance. In the N.E. arm also there are good salmon-fisheries at Little River and Conna River. All the country about this part is mountainous and barren; but about the head of the bay it becomes level, and has abundance of wood, such as fir, pine, birch, witch-hazel, spruce, &c.

GREAT JERVIS HARBOUR, situated in the west entrance into the Bay of Despair, is safe, with good anchorage in every part in from 16 to 20 fathoms, secure from all winds, and plenty of wood and water. The passage in is on either side of the Great Jarvis Island; but the southernmost channel is the safest, there being no danger in it but the shore itself, while in the northern channel there are several sunken rocks. To sail in, you should bring the north point between the two rocks

above water on the starboard side, and then steer directly in; this will carry you clear of some sunken rocks lying on the west point of the island, and appearing at low water. The entrance to this harbour may be known by the east end of Great Jervis Island, which is a high, steep, craggy point, named Great Jervis Head, and is the northern point of the south entrance to the harbour.

BONNE BAY lies about a league to the westward of Great Jervis Head, and nearly N. by E. distant 7 miles from Pass Island. It has several islands at its entrance, the westernmost of which is the largest and highest. The best passage in is to the eastward of the largest island, between it and the two easternmost islands. The bay runs in north, 4 miles, and there is no danger but what shows itself. You may go on either side of Drake Island, which is small, and nearly in the middle of the bay; between which, and two small islands on the west side of the bay, within Great Island, there is anchorage in 20 or 30 fathoms; but the best place for large ships is near the head of the bay, in 12 or 14 fathoms, clear ground, and convenience for wood and water. On the N.W. side of Great Island, within the two small islands, is very good anchorage, in from 16 to 24 fathoms, secure from all winds; the entrance to this, from the bay, is to the northward of the two small islands. In sailing in or out of the bay, approach not too near the south point of Great Island, as there are some sunken rocks lying at $\frac{1}{2}$ of a mile from shore. A little to the westward of Bonne Bay is Mosquito Cove, a small inlet having from 30 to 47 fathoms water.

W.N.W. 4 miles from Bonne Bay is the entrance to the Bays of Facheux and Dragon; this entrance being very conspicuous at sea, the coast may here be readily known.

Facheux, which is the easternmost branch, is very easily seen to seaward; it runs in N.N.E., 2 leagues, and is half a mile wide at the entrance, with deep water in most parts of it. On the west side of the bay are three coves, where ships may anchor, in from 10 to 20 fathoms. Dragon Bay lies in N.W., a league, and is nearly half a mile wide, with 60 or 70 fathoms water, and no anchorage excepting near the head; and then you must lie very near the shore. One mile to the westward of Facheux is Little Hole, with shelter for small craft; and a league to the westward of Facheux is Richard's Harbour, a place fit only for small vessels and fishing shallops, with 23 fathoms water in it.

HARE BAY lies N.W. by W. a league from Richard's Harbour, and runs in N.N.E. about 5 miles, being about $\frac{1}{2}$ of a mile wide, with deep water close home to both shores in all parts of it, except about a league up on the west side, where there is good anchorage, in from 8 to 15 fathoms, with plenty of wood and water; and also in a small cove about a mile up on the east side, where there are 30 fathoms, with gradual soundings to the shore.

About $4\frac{1}{2}$ miles N.W. from Hare Bay, and 4 miles N.E. from Hare's Ears Point, is Devil's Bay, a narrow inlet, extending a league to the northward, with deep water, and no anchorage until you come close to the head.

The Bay of Rencontre lies to the northward of Hare's Ears Point, and runs in N.W. 2 leagues. It has deep water in most parts of it, and is nearly half a mile wide at the narrowest part. The anchorage is in 30 fathoms, above a low woody point on the south shore, quite land-locked. Hare's Ears Point is large, with a ragged rock upon it, which, from some points of view, looks like the ears of a hare. It divides the Bays of Rencontre and Chaleur, and bears N.W. $\frac{1}{2}$ W., 17 miles, from Pass Island. Off this point is a fishing bank, extending a full mile from the shore, having from 20 to 36 fathoms over it.

Two miles to the westward of Hare's Ears Point is the Bay of Chaleur, which runs in about 2 leagues N.N.W. It is very narrow, and has deep water in most parts. At the northern side of the entrance into the bay, and close to the land, is a small island, of moderate height; and half a league within the island, on the N.E. side of the bay, is a rock above water; a little within this rock, on the same side, is a small cove with a sandy beach, off which you can anchor in 25 fathoms, a cable's length from the shore.

West, nearly half a league from the Bay of Chaleur, is Bay Français, a small inlet, running in N.W. $\frac{1}{2}$ W., a mile, being at the entrance about $\frac{1}{2}$ of a mile broad, and 17 fathoms deep; but just within are 50 and 60 fathoms; at the head are from 30 to 40 fathoms, good anchorage, and very convenient for carrying on the fishing business.

CAPE CHAPEAU ROUGE TO CAPE RAY.

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Westward, 4 miles from the Bay Français, on the east side of Cape la Hune, lies Oar Bay: off the east point of the entrance to which is a low rocky islet, and in the entrance of the bay is another, with a passage on each side of it. The bay runs in N.N.E., about 4 miles, and is one-third of a mile wide, with deep water close to both shores all the way up; at the head is a harbour for small vessels, with only 5 fathoms water. At the west side of the entrance into the bay, is a small cove named Cui de Sac, with 3 and 4 fathoms water, and good shelter for small vessels.

CAPE LA HUNE is the southernmost point of land on this part of the coast, and lies in lat. $47^{\circ} 81' N.$ and long. $56^{\circ} 47' W.$, bearing W.N.W. $\frac{1}{2} N.$ $8\frac{1}{2}$ leagues from Pass Island, and N.N.W. $\frac{1}{2} N.$ 10 leagues from Cape Miquelon. Its figure much resembles a sugar-loaf; and it may also be known by the high land of La Hune, which lies a league to the westward of it, appearing flat at the top, and visible from a distance of 16 leagues.

THE PENGUIN ISLANDS lie W.S.W. $\frac{1}{2} S.$ $10\frac{1}{2}$ miles from Cape La Hune, and N.W. $\frac{1}{2} N.$ 10 leagues from Cape Miquelon: they are an assemblage of barren rocks lying near to each other, and altogether about 2 leagues in circuit, and may be approached in the day-time to the distance of half a league all round. On the W.S.W. side of the large island, which is the highest, is a small cove, fit for shallops, and convenient for the fisheries; the ground about it is considered to be good for fishing.

E.S.E., 7 miles from the Penguin Islands, and S. by W. 3 leagues from Cape la Hune, lies the Whale or La Hune Rock, on which the sea generally breaks; it is about 100 fathoms in circuit, with 10, 12, and 14 fathoms water close to all round it. From this rock a narrow bank extends a league to the westward, and half a league to the eastward, with from 24 to 58 fathoms water on it, rocky and gravelly bottom. In the channel between the shore and this rock, and also between the shore and the Penguin Islands, are 120 and 180 fathoms of water, muddy bottom; and there is the same depth of water at a league without them.

LA HUNE BAY lies close to the westward of Cape la Hune; it is about 2 leagues deep, and $\frac{1}{2}$ of a mile wide, with deep water in most parts of it; but there is a sunken rock which lies off the west point of the entrance, nearly one-third over the channel; therefore, in sailing in or out of this bay, you should keep the eastern shore on board.

Two miles up the bay is Lance Cove, having anchorage in 14 and 16 fathoms water, good clean ground. A cable's length off the southern point of this cove is a small shoal, with 9 feet water; and between it and the point there are 5 fathoms. To sail into this place keep the east point of the bay open of a red cliff point, off which is a rock above water until the round hill over the valley of the cove, is brought on with the north side of the valley; you will then be above the shoal, and may haul into the cove with safety. There is a narrow bank which stretches quite across the bay, from the south point of the cove to the opposite shore, whereon are from 27 to 45 fathoms.

La Hune Harbour lies half a league to the westward of Cape la Hune, and is fit only for small vessels, and is open to westerly winds: before it lies an island near the shore. The channel into the harbour is on the N.W. side of the island; there is no danger going in, and you must anchor close up to the head, in 10 fathoms water. This harbour is well adapted for the fishery, there being good fishing ground about it, and a large beach quite across from the head of the harbour to La Hune Bay, a space of 800 feet, exposed to the open air, and well calculated for drying fish.

Four leagues N.W. $\frac{1}{2} W.$ from Cape la Hune, is the entrance of Little River, which is about 100 fathoms wide at the entrance, and 10 fathoms deep; a little way up there is anchorage in 10, 8, and 7 fathoms water, good ground. Between Cape la Hune and Little River the land is tolerably high, and forms a bay, where there are several small islands and rocks above water, the outermost of which lies N.N.E. $\frac{1}{2} E.$ 3 leagues from the Penguin Islands, and are called the Magnetic Rocks.

S. by W. $\frac{1}{2} W.$ 7 miles from the entrance of Little River, and N. by W. $\frac{1}{2} W.$ from the Penguin Islands, lie the Little River Rocks, which are just above water, with very deep water all round them.

THE RAMEA ISLES, which are of various extent, both in height and circuit, lie N.W. $\frac{1}{2} N.$ $5\frac{1}{2}$ leagues from the Penguin Islands, and a league from the main. They extend east and west 5 miles, and north and south 2 miles, and have several rocks and breakers about them; but more on the south side than on the north. The

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easternmost island is the largest, and is high and hilly: the westernmost, called Columbe, is a remarkably high, round island, of small circuit, with some rocky islands and sunken rocks near it.

There is a harbour for small vessels, formed by the islands which lie near Great Ramaea and the Columbe, named Ramaea Harbour, where they may lie sheltered from all winds. To enter this from the westward, you should give the southern point a berth, on account of some rocks that lie off the starboard island, all of them being above water; steer E.N.E. towards the harbour, keeping as nearly mid-channel as you can: the passage is above a cable's length broad, and run for the anchorage in Ship Cove. This is the second inlet on the north-western shore; you will here ride safely, on clean ground, in 5 fathoms water. To enter from the eastward, you must keep the northern side of Great Ramaea on board, until you arrive at the west end thereof, then steer S.W. into the harbour, keeping in the middle of the channel, in about 3 fathoms, and anchor as before directed. This harbour is very convenient for fishing vessels, as in it, and also about the islands, are several places fit for erecting stages, and drying fish, which seem to be well calculated for that purpose.

The Ramaea Rocks are two in number, close to each other, lying about south, 4 miles from the east end of Great Ramaea. W.S.W., distant 3 miles from these rocks, is a small bank, with only 6 fathoms water on it; and nearly in the middle, between Ramaea and the Penguin Islands, is the New Bank, with from 14 to 50 fathoms water. To run upon the shoalest part of this bank, bring the two Ramaea Rocks in one with the south-western part of Ramaea Islands, and between them and Columbe; and the entrance to Little River N.E. $\frac{1}{2}$ E.

Four miles to the westward of Little River is Old Man's Bay, which runs in N.N.E. about 7 miles, and is nearly a mile wide: the water throughout the bay is very deep. About $1\frac{1}{2}$ miles up the bay, on the eastern side, is a small island, named Adams Island, behind which vessels can ride, if necessary, in 30 and 40 fathoms; but the best anchorage is at the head, in 14 or 16 fathoms.

Mosquito Harbour lies about half a league to the westward of Old Man's Bay. It is a snug and safe harbour, and will hold a great number of vessels, in perfect security; but the entrance is so narrow, being only 48 fathoms in breadth; that it is difficult to get in or out. The land on both sides is high; and off the southern point of entrance is a large white rock, about a cable's length from which is a black rock, above water, having on its southern side a sunken rock, whereon the sea breaks; from this black rock to the entrance of the harbour, the course is about N.N.W., distance, one-third of a mile. In sailing either in or out, you should give the black rock a small berth, keeping the western shore on board, and, if obliged to anchor, be as quick as possible in getting a rope on shore, lest you drift on the rocks. In this harbour you will have from 16 to 30 fathoms water, with good riding everywhere, and plenty of both wood and water. In the narrows you will find 12 fathoms, the shores being bold-to. South and easterly winds blow right in, northerly winds right out; and with westerly winds it is commonly either quite calm, or descends in irregular puffin.

Fox Island Harbour is formed by an island of the same name; it lies about half a league to the westward of Mosquito Harbour; between are several rocky islands and sunken rocks. This is a commodious harbour for small vessels, which may anchor in 8, 9, and 10 fathoms water. You may go in on either side of the island, and there is no danger but what shows itself.

White Bear Bay.—This bay lies about 3 miles to the westward of Fox Island Harbour, and N.N.E. one league from Great Ramaea Island: it has several islands at its entrances. It runs in N.E. $\frac{1}{2}$ N. about 4 leagues; is nearly half a mile wide in the narrowest part, and has deep water close to both shores in most parts, to the distance of 3 miles up; then the ground rises at once to 9 fathoms, whence it shoals gradually to the head, with good anchorage. The best passage into the bay is to the eastward of all the islands. On the S.W. side of Bear Island, which is the easternmost and largest in the mouth of the bay, is a small harbour, running in about east, half a mile, with from 10 to 23 fathoms of water; but there are several sunken rocks before its mouth, rendering it difficult of access. At the western entrance is a high, round, white island; and S.W. half a mile from this island, is a black rock, above water. The best passage into the bay, from the westward, will be to the westward of this black rock, and between White and Bear Islands; some of the rocks are above a mile off the land.

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At 5 or 6 miles to the westward of White Bay, and nearly north from Ramea Columbe, are two small harbours, named Red Island Harbours, formed by Red Island, which lies close under the land. The westernmost is the largest and best, and has from 6 to 8 fathoms water, good anchorage. In going in, keep the island close on board, the outer part of which is composed of steep red cliffs, hence its name.

THE BURGOE ISLES are a cluster of islands extending about 5 miles along N.W. by W. from Ramea Columbe. To sail into Burgoe from the eastward, the best passage is on the N.E. side of Boar Island, which is the northernmost, and lies N.N.W. from Ramea Columbe. S.E. by E. from this island, half a league, is a rock, uncovered at low water, on which the sea generally breaks; you may go on any side of this rock, the water being deep all round it: as soon as you are to the N.W. of it, keep the north side of Boar Island on board, and steer W. $\frac{1}{2}$ N. for Grandy's Cove, the north point of which is the first low point on your starboard bow; haul round that point, and anchor in the cove, in 14 fathoms, and moor with a fast on shore. The best place for laying to anchor in is, betwixt Grandy's Cove and a small island lying near the south end of Boar Island, in 20 or 24 fathoms, good ground, and sheltered from the wind. To sail into Grandy's Cove from the westward, is dangerous, unless well acquainted: there are several safe passages in from the southward and eastward, betwixt the islands, and good anchorage; and, in bad weather, all the sunken rocks discover themselves; you may, therefore, run in very without fear. The islands do not afford either wood or water.

Wolf Bay extends inwards N.E. by E., a league; the entrance is E.N.E., 3 miles from Boar Island, and two miles to the westward of Red Island Harbour. The east point of the entrance is composed of low rugged rocks, off which is a sunken rock, at a distance of a quarter of a mile from shore, whereon the sea breaks in bad weather. Near the head of the bay is tolerably good anchorage, and plenty of wood and water.

King's Harbour lies round the west point of Wolf Bay, and runs in N.E. by E. $\frac{1}{2}$ of a mile; before its mouth is a cluster of little islands. To sail in, keep the east point of these islands on board, and steer N. by W. and North for the entrance of the harbour, anchoring under the east shore, in 6 fathoms.

HA-HA.—On the south side of the islands before King's Harbour, and nearly north, a mile from Boar Island, is the entrance into the Ha-Ha, which runs in W.N.W., a mile, and is about a quarter of a mile broad, with from 20 to 10 fathoms water, and good ground all over. Over the south point of the entrance into this harbour is a high green hill; and 1 $\frac{1}{2}$ cable's length from the point is a sunken rock; that always shows itself. Over the head of the Ha-ha is Richard's Head, a mark for running upon Ramea Shoal.

About 4 miles to the westward of the Burgoe Isles, to the Great Barachois Point, which is low, white, and rocky; and E.N.E. $\frac{1}{2}$ N. half a league, from this point is the west entrance into the Great Barachois, wherein is room and depth of water for small vessels. Betwixt the Burgoe Isles and the Great Barachois Point, are several sunken rocks, some of which are half a league from the shore.

CONNOIRE BAY.—N.W. $\frac{1}{2}$ N. a league from the Burgoe Isles, is the east point of the Bay of Connoire. This point is so far remarkable, that it rises with an easy ascent to a moderate height, and much higher than the land within it: the west point of the bay is low and flat, and to the westward of this are several small islands. The bay runs in N.E. by N., about a league, (from the east point to the middle head, where it divides into two arms), and is half a league in width; with 14, 12, 10, and 6 fathoms; close to both shores; it affords good anchorage, with clear grounds, but open to S.W. winds. The N.E. arm affords shelter for small vessels from all winds. To sail in, keep nearest the starboard shore, and anchor before a small cove on that side, near the head of the arm, in 36 fathoms. Towards the head of the arm on the north-western side, is a bank of mud and sand, upon which a vessel may run if necessary, and receive no damage.

THE BAY OF OUTTEAU lies about 3 leagues to the westward of Connoire, and will admit small vessels only. Round the west point of Outtau is Qing Gurr, wherein are a number of islands, which form several small safe harbours. Right off Qing Gurr, about half a league from the shore, is a low rocky island, named Capt Island, westward of which is the safest passage into the largest harbour, keep near the

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rock, steering E.N.E. $\frac{1}{2}$ E. towards the south-eastern shore, until you get abreast of a small woody island; this is the easternmost except one, and lies about a quarter of a mile E.N.E. from a white rock in the middle of the channel; haul short round this island, and anchor behind it, in 7 fathoms water, here, you will lie safely, sheltered from all winds, or you may go farther up, and anchor at the head of the bay, in 4 fathoms.

Four miles to the westward of the rocky island of *Cinq Serf*, is the harbour of Grand Bruit, which is small but commodious, and may be known by a very high and remarkable mountain over it, half a league inland, which is the highest land on all the coast: down this mountain runs a considerable brook, emptying itself, by a cascade, into the harbour. Before the mouth of the harbour are several little islands, the largest of which is of middling height, with three green hillocks on it. A little outside of this island is a round rock, rather high above water, named the *Columbe* of Grand Bruit; and a quarter of a mile to the southward of this rock is a low rock: in a direct line between the low rock and the rocky isles of *Cinq Serf*, half a league from the former, is a sunken rock, whereon the sea does not break in fine weather. The safest passage into Grand Bruit is to the north-eastward of this rock, and of the islands lying before the harbour, between them and the three islands (which are low, and lay under the shore); and, after you are to the northward of the sunken rock, N.N.E., half a mile, and is but a quarter of a mile wide in the broadest part; but it is bold to on both sides, and has a depth of from 4 to 7 fathoms.

To the westward of Grand Bruit, between it and *La Poile Bay*, lies the Bay of Rotte, wherein are a great many islands and sunken rocks. The southernmost is a remarkable high round rock named the *Columbe* of Rotte, which lies N.W. by W. 84 leagues from the southernmost of the *Burgees*. Between this island and Grand Bruit is a reef of rocks, some above and some under water, but they do not lie to the southward of the direct line between the islands.

Within the islands of Rotte there is shelter for shipping: the safest passage in is to the westward of the islands between them and Little Ireland, which lies off the east point of *La Poile Bay*.

LA POILE BAY.—This bay is large and spacious, and has several commodious harbours. It may be known by the high land of Grand Bruit, which is only 5 miles to the eastward of it; and likewise by the land on the east side of the bay, which rises in remarkably high craggy hills. About $1\frac{1}{2}$ mile S.W. from its east point lies Little Ireland, a small low island, environed with sunken rocks, some of which are one third of a mile off. North, about half a mile from Little Ireland, is a sunken rock that shows itself at low water: this is the only danger in going into the bay, excepting such as lie very near the shore.

Two miles within the west point of the bay, and N. $\frac{1}{2}$ W. 2 miles from Little Ireland, is Tweede, or Great Harbour; its south point is low, and it extends inwards W.N.W., a mile; it is about $1\frac{1}{2}$ cable's length wide in the narrowest part, and the anchorage is near the head of the harbour, in 18 or 20 fathoms, clear ground, and sheltered from all winds. At half a mile to the northward of Great Harbour, is Little Harbour, the north point of which, named *Tooth's Head*, is the first high bluff head on the west side of the bay; the harbour extends inwards W.N.W., about a mile. In sailing in, give the south point a small berth. You may anchor about half-way up the harbour, in 10 fathoms water, before the stage which is on its northern side.

Gally Boy's Harbour lies on the east side of the bay, opposite *Tooth's Head*; it is small, snug, and convenient for ships bound to the westward. The north point is high and steep, with a white spot in the cliff, and near its southern point are some hillocks close to the shore. To sail in or out, keep the north side on board. You must anchor so soon as you are within the inner south point, in 9 or 10 fathoms, good ground, and sheltered from all winds. One mile to the northward of *Gally Boy's Harbour*, between two sandy coves on the east side of the bay, and nearly 2 cable's length from the shore, is a sunken rock, that just uncovers at low water.

Broad Cove is about 2 miles to the northward of *Tooth's Head*, on the same side of the bay. In this there is good anchorage in 12 or 14 fathoms.

The N.E. Arm lies about 2 leagues from the entrance of the bay, on the eastern side; and forms a spacious, safe, and commodious harbour. In sailing in, give the

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low sandy point on the S.E. side a small berth, and anchor above it, where convenient, in 10 fathoms water, good-holding ground, sheltered from all winds, and very convenient for wood and water.

Indian Harbour and De Plate lie just within the outer west point of La Poile Bay; these are two small coves conveniently situated for the fishery, but fit only for small vessels which may get in at high water.

Little Ireland bears from the southernmost of the Burgeon N.W. by W. $\frac{1}{2}$ W. 4 leagues; and lies nearly 11 leagues to the eastward of Cape Ray.

From Little Ireland to Harbour la Coue, and La Moine Bay, the course is W.N.W. $\frac{1}{2}$ W., 9 or 10 miles; between these the Bay of Garia, and several coves, fit only for small vessels, before which there are many islands and sunken rocks scattered along the shore, but none of them lie without the above course. In bad weather, all the sunken rocks discover themselves. To sail into Garia Bay, you will, in coasting along shore, discover a white head, which is the south point of an island, lying under the land, off the eastern point of the bay, and a little to the westward of two green hillocks on the main: bring this white point N.N.E., and steer directly towards it; keep between it and the several islands that lie to the W.S.-westward. From the white point, the course into the bay is N. by W.: borrow toward the eastern point, which is low. The Bay of Garia affords plenty of timber, large enough for building ships.

The S.W. point of the entrance into Harbour la Coue, named Rose Blanche Point, (near to which are some rocks above water,) is tolerably high, and the land near the shore over Harbour la Coue and La Moine Bay is much higher than any other land in the vicinity: by this the harbours may be known. La Moine Bay extends inwards N.E. $\frac{1}{2}$ E., about 4 miles, and is one quarter of a mile broad in the narrowest part. Off the east point are some small islands and rocks above water. In sailing in, keep the west point on board, until you have entered the bay; then edge over towards the east shore, and run up to the head of the bay, where you may anchor in 10 or 11 fathoms, good ground: here is plenty of wood and water.

To sail into Harbour la Coue, which lies at the west entrance into La Moine Bay, steer in N.N.W., between a rock above water, in the mouth of the harbour, and the west shore; as soon as you are within the rock, haul to the westward into the harbour, and anchor in 6 or 8 fathoms water, mooring with a hawser on shore: or you may steer into the arm, which runs in N.E. by E. from the harbour, and anchor in 20 fathoms, sheltered from all winds. This has been the resort of the small fishing vessels for many years.

To the westward of Rose Blanche Point is the harbour of the same name; it is small and snug, and the anchorage is in 9 fathoms water. The channel into the harbour is between the island lying off its western point, and Rose Blanche Point; give the island a good berth, on account of some sunken rocks which lie on its eastern side, and keep the west side of the small island which lies close to the point on board, then anchor within the N.E. point of this island in 9 fathoms. To enter into the N.W. part of the harbour would be dangerous, if a stranger, because of its numerous islands and rocks.

Mill Face is a small cove, $\frac{1}{2}$ miles to the westward of Rose Blanche Point, wherein is anchorage for small vessels in 4 fathoms. Off the west point of the cove are two small islands, and several sunken rocks; the passage in is to the eastward of these.

Seven miles to the westward of Rose Blanche Point are the Burnt Islands, which lie close under the shore, and are not easily to be distinguished from it; behind these is shelter for small vessels. Off these islands are sunken rocks, some of which are half a mile from the shore.

Six miles to the westward of Rose Blanche Point, are Conney and Otter Bays, both of which are rendered difficult of access by several sunken rocks outside the passage, which do not show themselves in fine weather; but when once you are safe within Otter Bay, there is good riding in 7, 8, and 9 fathoms water.

DEAD ISLANDS HARBOUR.—W.N.W. $\frac{1}{2}$ W., nearly 4 leagues from Rose Blanche Point, are the Dead Islands, which lie close under the shore. In the Passage to Dead Islands Harbour, between the islands and the main, is good anchorage for shipping in 6 or 8 fathoms, sheltered from all winds; but it is very dangerous of access to strangers, as there are several sunken rocks in both the east and west entrances. The eastern entrance can be known by a remarkable white spot on one

of the islands; bring this spot to bear N. by W., and steer in for it, keeping the starboard rocks on board, and leave the white spotted island on your port side. The western entrance may be recognized by a high point on the main, a little to the westward of the islands, on the western part of which point is a green billock; keep this point close on board, until you get within a little round rock, near to the westernmost island, at the eastern point of entrance; then haul over to the eastward for the great island, distinguished by a high hill, and, steer E. & N. keeping the before-mentioned little rock in sight.

PORT AUX BASQUE.—From the Dead Isles to Port aux Basque, the course and distance are W.N.W. about 4 miles; between lie several small islands close under the shore, and there are sunken rocks, some of which are half a mile from the shore. Port aux Basque is a small commodious harbour, lying about 2½ leagues to the eastward of Cape Ray. To fall in with it, bring the Sugar-Loaf Hill over Cape Ray to bear N.N.W. ¼ W., or the west end of the Table Mountain N.N.W. Steer in for the land with either of these marks, and you will fall directly in with the harbour: the S.W. point, named Point Blanche, is of a moderate height, and of white appearance; but the N.E. point is low and flat, and has, close to it, a black rock above water. In order to avoid the outer shoal, on which are 3 fathoms, and which lies E.S.E., three-quarters of a mile, from Point Blanche, keep the said point on board, and bring the flag-staff which is on the hill over the west side of the head of the harbour, on with the S.W. point of Road Island: that direction will lead you in the middle of the channel, between the east and west rocks, the former of which always show themselves, and these you leave on your starboard hand; continue this course up to Road Island, and keep the west point on board, in order to avoid the Frying-Pan Rock, which stretches out from a cove on the west shore, opposite the island.

As soon as you are above the island, haul to the E.N.E., and anchor between it and Harbour Island wherever you please, in 9 or 10 fathoms, good ground, and sheltered from all winds; this is named the Road, or Outer Harbour, and is the only anchoring place for men-of-war, or ships drawing a great depth of water, but small vessels always lie up in the Inner Harbour. To sail into it, run in between the west shore and the S.W. end of Harbour Island, and anchor behind the said island, in 8 or 4 fathoms. In some parts of this harbour ships can lay their broadsides so near to the shore as to reach it with a plank. This place has been frequented by fishermen for many years; it is well situated for their purposes, and is capable of most excellent accommodations. A mile to the eastward of Basque is Little Bay.

GRAND BAY lies about 4 miles to the westward of Port aux Basque; there are several small islands and rocks in and before it, the outermost of which are not above a quarter of a mile from the shore; on these the sea generally breaks. It is only fit for small vessels.

From Port aux Basque to Point Enragée, the bearing and distance are W.N.W., about a league, and thence to Cape Ray, N.N.W., nearly 1½ league. Point Enragée is low; off it, and to the eastward of it, are some sunken rocks, a mile from the shore, whereon the sea breaks.

CAPE RAY, the S.W. extremity of Newfoundland, is situated in latitude 47° 31' N., and longitude 53° 33' W. The land of the cape is very remarkable; near the shore it is low, but 3 miles inland is a very high table mountain, which rises almost perpendicularly from the low land, and appears to be quite flat at the top, excepting a small billock on the S.W. point of it. This land may be seen, in clear weather, from the distance of 16 or 18 leagues. Close to the foot of the table mountain, between it and the point of the cape, is a high round hill, resembling a sugar-loaf, (named the Sugar-Loaf of Cape Ray,) whose summit is a little lower than that of the table mountain; and to the northward of this hill, under the table mountain, are two other conical hills, resembling sugar-loaves, which are not so high as the former; one or other of these sugar-loaf hills are, from all points of view, seen detached from the table mountain.

There is a sandy bay between Cape Ray and Point Enragée, wherein ships may anchor with the winds from N.N.W. to East, but they should be cautious not to be surprised there with S.W. winds, which blow directly in, and cause a great sea. The ground is not the best for holding, being fine sand. Towards the east side of this bay is a small ledge of rocks, a mile from shore, on which the sea does not break in fine weather. The best place for large ships to anchor in is, to bring the point of the

cape N.W., and the high white sand-hill in the bottom of the bay N.E. in 10 fathoms water. Small vessels may lie farther in. Be careful not to run so far to the eastward as to bring the end of the table mountain on with the sand-hill in the bottom of the bay, by which means the ledge of rocks, before mentioned, will be avoided.

N.W. & W., nearly a mile from the point of the cape, is a small ledge of rocks, named the Cape Rocks, whereon the sea always breaks; and one mile to the northward of the cape, close under the land, is a low rocky island. There is a channel between the ledge and the cape, with 14 and 15 fathoms water; and also between it and the island with 4 and 5 fathoms; but the tides, which run here with great rapidity, render it unsafe for shipping.

The soundings, under 100 fathoms, do not extend above a league from the land to the southward and eastward of the cape, nor to the westward and northward of it, except on a bank which lies off Port aux Basque, between 2 and 3 leagues from the land, whereon are from 70 to 100 fathoms, good fishing ground. S.E. & S., about 13 leagues from Port aux Basque, in the latitude of $47^{\circ} 14' N.$, is said to be a bank, whereon are 70 fathoms.

THE TIDES.—Between Cape Chapeau Rouge and Cape Ray, in all the bays, &c., the tide generally flows till 9 o'clock, on full and change, and its perpendicular rise is about 7 or 8 feet on springs; but it must be observed, that the tides are everywhere influenced by the winds and weather. On the coast, between Cape Chapeau Rouge and St. Pierre, the current sets generally to the S.W. On the south side of Fortune Bay it sets to the eastward, and on the north side to the westward. Between Cape La Hune and Cape Ray, the flood sets to the westward in the offing, very irregularly; but generally 2 or 3 hours after it is high water by the shore. The tide, or current, is inconsiderable, excepting near Cape Ray, where it is strong, and at times sets quite contrary to what might be expected from the common course of the tides, and much stronger at one time than at another: these irregularities seem to depend chiefly on the winds.

WEST COAST OF NEWFOUNDLAND.

CAPE RAY TO CAPE NORMAN.

CAPE AUGUILLE bearing N. & E., 17 or 18 miles from Cape Ray, is the northernmost point of land you can see, after passing to the westward of Cape Ray; it is high table land, and the country above it is covered with wood. Between the high land of the two capes, the coast is low, and the shore forms a bay, wherein are the great and little rivers of Cod Roy; the northernmost, or Great Cod Roy River, is a barred-harbour, which, at high water, will only admit vessels whose draught does not exceed 8 or 10 feet. The shore between the two capes may be approached to about half a league, there being no danger at that distance off it. It is a good salmon-fishery, and is adapted for building small vessels and boats, there being timber in abundance.

The island of Cod Roy lies $\frac{1}{2}$ or 2 miles to the southward of Cape Anguille, close under the high land, and is a low, flat, green island, of nearly 2 miles in compass, in the shape of a horse-shoe, forming, between it and the main, a small snug harbour for vessels of 10 or 12 feet draught, the safest entrance to which is from the southward.

Cod Roy Road lies south-eastward from the island, and affords good anchorage for shipping, in 8, 9, or 6 fathoms, on a clay bottom. With the south point of the island bearing about W.N.W., and the point of the beach on the inside of the island, at the south entrance into the harbour, on with a point on the main to the northward of the island, you will lie in 7 fathoms, and nearly half a mile from the shore. A league to the southward of Cod Roy Island is a high bluff point, named Stormy Point, off which a shoal stretches out a full half mile; this point covers the road from the S.E.E. winds, and there is good anchorage all along the shore, between it, and the island.

ST. GEORGE'S BAY.—From Cape Auguille to Cape St. George the course and distance are N.N.E. $\frac{1}{2}$ E., about 12 leagues: between these two capes is the Bay of St. George, which extends inwards E.N.E., 18 leagues from the former, and E.S.E., 11 leagues from the latter. At the head of this bay, on the south side, round a low point of land, is a harbour, with anchorage in 8, 10, or 12 fathoms water. The river St. George empties itself into the head of this bay, but it is not navigable for anything but boats, and it appears to be fast filling up with sand. On the north side of the bay, before the isthmus of Port-au-Port, is good anchorage, in 7 or 8 fathoms, with northerly winds: from off this place a fishing-bank stretches two-thirds across the bay, with from 7 to 10 fathoms water on it, dark sandy bottom.

Cape St. George lies in latitude $48^{\circ} 28'$ north, and may be readily known, not only by its being the north point of the Bay of St. George, but also by the steep cliffs on the north part of it, which rise perpendicularly from the sea to a considerable height; and by Red Island, which lies 5 miles to the north-eastward of the cape, and half a mile from the shore. This island is about $1\frac{1}{2}$ miles in length, and of a middling height; the steep cliffs around it are of a reddish colour. There is anchorage with off-shore winds under the N.E. end of the island, before a sandy cove on the main, which lies just to the northward of the steep cliffs, in 12 or 14 fathoms; you will there ride, covered from the S.W. winds by the island, and from the southerly and easterly winds by the main land; but there is no shelter whatever with winds from the N. or N.W., although this place was formerly much resorted to by vessels in the fishing-trade.

From abreast of Red Island, distant 4 or 5 miles, to Long Point, at the entrance into the Bay of Port-au-Port, the bearing and distance are E. by N., 7 or 8 leagues; from Red Island to Guernsey Island, in the mouth of the Bay of Islands, E.N.E., nearly 16 leagues; from Red Island to Cape St. Gregory, N.E. by E. $\frac{1}{2}$ E., fully 20 leagues; and from Red Island to Point Rich, which is the north point of Inghrenchoix Bay, N.E. by E., 49 leagues.

PORT-AU-PORT.—The land between Red Island and the entrance into Port-au-Port is rather low, with sandy beaches, except one remarkable high hillock, named Round Head, close to the shore, about 2 leagues to the E.N. Eastward of Red Island; but up the country, over Port-au-Port, are high lands; and if you are 3 or 4 leagues off at sea, you cannot discern the long point of land which forms the bay. This bay is capacious, being about 5 miles broad at the entrance, and 4 leagues deep, running in to the south and south-westward, with good anchorage in most parts of it.

Long Point is the west point of the bay; it is low and rocky, and a ledge of rocks extends from it E.N.E. nearly a mile. S.E. by E. $\frac{1}{2}$ E., 4 miles from Long Point, and half a league from the east shore, lies Fox Island, which is small, but of middling height. From the north end of this island a shoal stretches out nearly 2 miles to the N.N. Eastward, named the Fox's Tail; and, nearly in the middle of the bay, between Fox Island and the west shore, lies the Middle Ground, on one part of which, near the S.W. end, there are not above 3 or 4 feet water. From the head of the bay, projecting out into the middle of it, is a low point, named Middle Point, off which, extending 2 miles N.E. by N., is a shoal spit, part of which dries at low water; this Middle Point divides the bay into two parts, named East and West Bays.

From the head of the East Bay over to the Bay of St. George, the distance is above a quarter of a mile; this isthmus is very low, and has a pond in the middle of it, into which the sea frequently dashes, especially at high tides, and with gales of wind from the southward. On the east side of it is a tolerably high mountain, rising directly from the isthmus, and flat at the top: to the northward of this, and at about 5 miles distant from the isthmus, is a conspicuous valley or hollow, hereafter to be used as a mark. N.E. by E. $\frac{1}{2}$ E., above two leagues from Long Point, and half a league from the shore, lies Shag Island, which appears at a distance like a high rock, and is easily to be distinguished from the main; and W.N.W., about a league from it, lies the middle of Long Ledge, a narrow ledge of rocks, stretching E.N.E. and W.S.W. about 4 miles; the eastern part of them is above water, and the channel into the bay of Port-au-Port, between the west end of this ledge and the reef which stretches off from the west point of the bay, is a league wide.

In sailing in, if coming from the south-westward, advance no nearer to the Long Point of the bay than $1\frac{1}{2}$ mile, until you have brought the valley in the side of the mountain before mentioned (on the east side of the isthmus), over the east end of Fox Island, or to the eastward of it, which will then bear south a little easterly; you will

then be clear of the Long Point Reef, and may haul into the bay with safety; but, if coming from the N.E. without the Long Ledge, or turning into the bay in order to keep clear of the S.W. end of Long Ledge, bring the isthmus, or the foot of the mountain (which is on the east side of the isthmus), open to the westward of Fox Island, nearly twice the breadth of the island, and it will lead you into the bay, clear of Long Ledge; and when Shag Island is brought on with the foot of the high land on the south side of Coal River, bearing then E. $\frac{1}{2}$ S., you will be within the Long Ledge. There is also a safe passage into the bay, between the Long Ledge and the main, on either side of Shag Island, though care must be taken to avoid a small shoal of 2 $\frac{1}{2}$ fathoms, lying W. by N., a mile from the island.

To sail up into the West Bay and Head Harbour, keep the western shore on board; this shore is bold-to. In turning between it and the Middle Ground, stand no nearer to the Middle than into 8 fathoms; but you may stand to the spit of the Middle Point into 6 or 5 fathoms. The anchorage in West Bay is in about 8 fathoms, and in Head Harbour in about 5 fathoms. The West Road lies before a high stone beach, about 3 miles south-westward of Long Point, where you may lie very secure from westerly and N.W. winds, in about 10 or 12 fathoms water; this beach is steep-to, and forms an excellent place for landing and drying fish. There is a good place at the northern end of Fox Island for the same purpose. The whole bay and the adjacent coasts abound with cod, and extensive fishing banks lie all along them.

The East Road lies between Fox Island and the east shore. To sail up to it, you should keep the high bluff head, which is about a league to the E.N.E. of the island bearing to the southward of S.E. by E. $\frac{1}{2}$ E., until the isthmus is brought to the eastward of Fox Island; you will then be within the shoal named the Fox's Tail, and may haul to the southward, and anchor anywhere between the island and the main, in from 10 to 15 fathoms.

To sail up into the East Bay, pass between the island and the east shore; and after you are above the island, come no nearer to the main than half a mile, until you are abreast of a bluff point above the island, named Road Point, just above which is the best anchorage with N.E. winds, in about 12 fathoms water. To sail up into the East Bay between the Middle Ground and the Fox's Tail, bring the said bluff point on with the S.W. point of Fox Island; this mark will lead you up in the fairway between the two shoals. Give the island a berth, and anchor as before directed, in from 8 to 12 fathoms water.

BAY OF ISLANDS.—From the Long Point at the entrance of Port-au-Port to the Bay of Islands, the bearing and distance are N.E. by E. $\frac{1}{2}$ E., 3 leagues. Be careful to avoid the Long Ledge. The land between is of considerable height, rising in craggy barren hills, directly from the shore. The Bay of Islands may be known by the many islands in the mouth of it, particularly the three named Guernsey, Tweed, and Pearl, which are nearly of equal height with the land on the main. If you are bound for Lark or York Harbours, which lie on the S.W. side of the bay, and are coming from the southward, run in between Guernsey Island and the South Head, both of which are bold-to; but with southerly and S.W. winds approach not too near the South Head, lest calm and sudden gusts of wind should proceed from the high land, under which you cannot anchor with safety. There are several channels formed by the different islands, through which you may sail into or out of the bay, there being no danger but what shows itself, excepting a small ledge of rocks, which lies half a mile north-eastward from the northern Shag Rock, and in a line with the two Shag Rocks in one. If you bring the south Shag Rock open on either side of the north Shag Rock, you will go clear to the eastward, eastward of the ledge, the safest passage into this bay from the northward, is between the two Shag Rocks, then between Tweed and Pearl Islands.

From Guernsey Island to Tortoise Head, which is the north point of York Harbour, and the S.E. point of Lark Harbour, the course and distance are nearly S. by W. $\frac{1}{2}$ W., 5 miles. Lark Harbour extends inwards W. by S. nearly 2 miles, and is one-third of a mile broad in the entrance, which is the narrowest part. In sailing into it with a large ship, keep the port shore on board, and anchor with a low point on the starboard side, bearing W.N.W., N.N.W., or N.N.E., and you will ride in 4 or 7 fathoms water, secure from all winds.

York Harbour lies W.S.W., nearly a league, from Tortoise Head. There is good turning room between the Head and Governor's Island, which lies before the harbour;

CAPE RAY TO CAPE NORMAN.

But you must avoid a shoal running off from a low beach point on the west end of Governor's Island, named **Sword Point**. There is also a shoal which runs off from the next point of Governor's Island, which must also be avoided. It is also named just touching **Sword Point** will lead clear of it. In sailing to **Sword Point**, a berth; passing which, the best anchoring ground is in the channels, along a sandy beach on the main, with **Tortoise Head** open of **Sword Point**. West and westerly winds blow here with great violence.

Harbour Island lies at the entrance of the **River Humber**, and is by **St. Paul**, from **Guernsey Island**; at its S.W. point is **Woods Harbour**, a place unfit for shipping. The **River Humber**, at about 7 leagues with the entrance, becomes narrow, and the stream is so rapid in some places, for about 4 leagues up, to a lake; that it is with great difficulty that even a boat can stem the current. The banks of this river are well clothed with timber, and formerly a great salmon fishery was carried on here.

The **North** and **South Arms** are both long, and with very deep water up to their heads. On the east side of **Edge Island**, between the **North** and **South Arms** is anchorage in 8, 10, or 12 fathoms water. Under the north side of **Harbour Island**, also a good anchorage with S.W. winds; and opposite to the S.E. end of **Harbour Island**, on the west side of the bay, is **Frenchman's Cove**, where there is good anchorage in from 20 to 30 fathoms.

The **Bay of Islands** was formerly much frequented by vessels in the cod fishery, and **St. Paul** was the chief port. **Small Bay**, which lies a little on the outside of **South Head**; and the **Bay of Sword Point**, in **Governor's Island**, is an excellent place for drying the fish.

From the **North Star Rock** to **Cape St. Gregory** the course and distance are nearly N. by E. 3 miles; and thence 13 or 14 miles, on a similar bearing, will carry you to the entrance of **Bonne Bay**. The land near the shore, from the **North Star Rock** to **Cape St. Gregory**, is low; but a very little way inland it rises into a high mountain, terminating at the top in round hills. Along this part of the coast there are sunken rocks a quarter of a mile from the shore.

CAPE ST. GREGORY is high, and between it and **Bonne Bay** the land rises directly from the seashore to a considerable height. It is the most northerly land seen when sailing along shore between **Red Island** and the **Bay of Islands**.

BONNE BAY.—This bay may be known, at the distance of 4 or 5 leagues, by the land about it; all that on the S.W. side of the bay being very high and hilly; and that on the N.E. side, and thence along the sea-coast to the northward, being low and flat; though at about one league inland, there is a range of mountains, running parallel with the sea-coast. Over the south side of the bay is a very high mountain, terminating at the top in a remarkable round hill, very conspicuous when you are to the northward of the bay. This bay extends inwards S.E., nearly 2 leagues, then branches into two arms, one of which runs in to the southward, and the other to the eastward. The southern arm affords the best anchorage; small vessels should ride just above a low woody point at the entrance into this arm, on the starboard side, before a sandy beach, in 8 or 10 fathoms water, about a cable's length from the shore. There is no other anchorage in less than 20 or 30 fathoms, excepting at the head of the arm, where there are from 25 to 30 fathoms water. In sailing into the east arm, keep the starboard shore on board; and a little way round a point at the entrance will be found a small cove, with good anchorage in 17 to 30 fathoms, but you must move to the shore.

There is a snug cove also close within the north point, with anchorage in 5 or 7 fathoms water. In sailing in or out of **Bonne Bay**, with S.W. winds, come not near the weather shore, lest you should happen to be becalmed, or should meet with heavy gusts of wind; as the depth of water is too great for the safety of your anchoring.

At 10 miles to the northward of **Bonne Bay** is **Martin Point**, high and white; off which, about three-quarters of a mile, is a small low sandy beach, whereon the sea breaks. **Broom Point** is low and white, and lies about a league to the northward of **Martin Point**. At half a mile W.S.W. from **Broom Point** is a sunken rock that seldom shows itself. On the north side of **Broom Point** is the **Bay of St. Paul**, wherein vessels may anchor with off-shore winds; but it is not exposed to the sea.

GOW HEAD lies about 5 miles to the northward of the **Bay of St. Paul**; this is a promontory, which has the appearance of an island, but is joined to the main only by

a very low and narrow-neck of land. About three-quarters of a mile off this head lies Steering Island, which is low and rocky, and is the only island on the coast between the Bay of Islands and Point Rich. Cow Cove lies on the south side of Cow Head, and ships may lie there, in from 7 to 10 fathoms, sheltered from northerly and easterly winds. Shallow Bay lies on the north side of Cow Head, and has water sufficient for small vessels. At the N.E. side of the entrance is a cluster of rocky islands, extending E.N.E. and W.S.W.; and at the W.S.W. side are two sunken rocks close to each other, which generally show themselves; they lie a cable's length from the shore, and there is a channel into the bay on either side of them. Steering Island lies right before this bay, and you may pass it on either side; but come not too near its N.E. end, as there are some sunken rocks extending from it. This is considered the best situated for a fishery on all the coast, and the grounds about its environs are eminently productive.

INGRENACHOIX BAY.—Point Rich, the northern point of Ingrénachoix Bay, is distant above 60 miles, N.E. $\frac{1}{2}$ E. from Steering Island; all the way between Shallow Bay and the south point of Ingrénachoix Bay, the coast forms nearly a straight line without creek, cove, or shelter from seaward, though vessels may here and there anchor, with off shore winds.

About 6 leagues from Steering Island, $\frac{1}{2}$ a mile inland, stands Portland Hill, so named from its resemblance to the Bill of Portland in the English Channel; the appearance of this hill continues the same from whatever point it is viewed.

PORT SAUNDERS AND HAWKES HARBOUR.—These are situated within, and to the eastward of Ingrénachoix Bay.

Keppel Island lies at the entrance of Ingrénachoix; and though at a distance it appears joined to the main land, yet there is a passage on either side of it. In sailing into Port Saunders, the island will be left on the starboard side, and when you are $\frac{1}{2}$ a mile within the entrance, anchor in 13 or 14 fathoms. Vessels proceeding to the head of the harbour must keep the port shore on board, to avoid a ledge of rocks that lies nearly in mid-channel. Port Saunders is considered the best harbour for vessels bound to the southward.

The entrance to Hawkes Harbour is to the southward of Keppel Island. The starboard shore is shoal, and has a sand-bank, stretching along the land; and running out two-thirds of the passage over, a great part of which dries at low water. The course is in E.S.E., keeping nearer the island than the main, until the eastern end of the former, a low sandy beach, bears N.E. by N. or N.N.E.; then steer S.E.E. $\frac{1}{2}$ E. for a small island you will see situated farther up the harbour; keeping the port shore well on board, run direct for this island, and when you have brought the point, at the south entrance of the harbour, to bear N.N.E. $\frac{1}{2}$ N., and are at the S.E.E. point of a bay on the starboard side of the harbour, you will then be beyond the shoal ground, and may anchor in 12 fathoms water; or else run within half a mile of the small island, and anchor there, which will be more convenient for both wood and water. This is the best harbour for ships bound to the northward. The land round about these harbours is generally low and covered with wood. You may occasionally anchor outside these, in the Bay of Ingrénachoix, according as you find the prevailing winds.

POINT RICH, in lat. $50^{\circ} 40' 18''$ N., is the south-western point of a peninsula, which is joined to the main by a very narrow neck of land; it is everywhere of moderate height, and projects farther to seaward than any other land on this side of Newfoundland. The coast from thence, each way, takes an inward direction.

Steering Point Rich, on its northern side, you will meet with Port au Obois, small, but yet capable of admitting a ship of burthen, mooring head and stern; to sail in you should keep the starboard shore on board, and anchor just above a small island lying in the middle of the harbour. In this place, and also in Boat Cove, which lies a little to the north-eastward, there are several stages and places for drying fish.

Old Port au Obois lies to the eastward of Boat Cove; it is a small but safe harbour, having at its entrance an island, named Harbour Island, and on its western side some rocks above and under water. There is also another island lying E.N.E. $\frac{1}{2}$ N., distant nearly a mile from Harbour Island, about which are several rocks, some of which stretch out towards Harbour Island, thereby rendering the passage between them very narrow. These are 4, 5, 6, and 7 fathoms water between Savage Island and the

main, and 4 and 6 fathoms between Savage Island Rocks and Harbour Island, and nearly the same depth between Harbour Island and the western shore.

To sail into Old Port au Choix, on the western side of Harbour Island, you must keep the island close on board; but to go in on the eastern side of the island, give the north-eastern point of the island a berth, and having well entered, you may anchor anywhere on the port side of the harbour, only avoiding the starboard side, for a shoal of sand and mud runs all along it.

BAY OF ST. JOHN.—This is an open and extensive bay, bounded by Point Rich to the southward, and Point Ferolle to the northward, having several islands within it, and some sunken rocks. The largest of these islands is St. John's, about 2½ miles in length, and 1½ broad, and lies E.N.E. distant 8½ miles from Point Rich; on its south-western side is a small harbour, well calculated for the cod-fishery, but too much exposed for shipping, as south-westerly winds commonly drive in a heavy sea. On the south-eastern, or inner side of the island, and between it and One Head Island, vessels may lie much more secure, in 14 or 16 fathoms water, and sheltered from most winds; and this is considered to be the only safe anchorage in the whole bay. West from St. John's Island, a large mile, is Flat Island, having a rock above water at its southern end. The channel between St. John's and Flat Island has from 13 to 25 fathoms in it, and the shores are both bold-to. The Twin Islands lie N.E. by N. from Flat Island, distant a league, and have no danger about them. To the westward of the Twins are several scattered rocks above water, named the Bay Islands; they have deep water around them, but no anchorage. At the bottom of the bay the land is very high, and there is the little river of Castors, the entrance to which is dangerous and shallow, therefore seldom frequented. From the northern point of this bay a rocky shoal extends all the way to Point Ferolle, stretching out 3 miles from the shore.

POINT FEROLLE lies N.E. by E. ½ E. from Point Rich, distant 22 miles; it is of moderate height, and joined to the main by a narrow neck of land, which divides the Bay of St. John's from New Ferolle Bay, making it appear like an island when seen from a distance. Its northern shore is bold-to; and this part of the coast will easily be known by the adjacent table land of St. John's, the west end of which mountain lies from the middle of Ferolle Point S. by W., and its eastern end S.E. ½ S.

New Ferolle Bay is a small cove lying to the eastward of the point, and is quite flat all over, there being not more than 2 and 3 fathoms at any part. It is quite open to the northerly winds, and has a stage on each side of it, with plenty of room for others.

ST. MARGARET'S BAY is large, and has several islands within it, also various inlets or coves, affording good anchorage, particularly on its western side, which is the best situation for ships, being most clear of danger, and convenient for wooding and watering. On its banks are spruce and fir trees in plenty, and many rivulets of fresh water. Dog Island, which is only an island at high water, is to the eastward of Point Ferolle fully 3 miles, being higher than any land near it; it has the appearance, when seen from the eastward, of an island situated at some distance from the main.

OLD FEROLLE.—Ferolle Island lies about 5 miles to the eastward of Dog Island. This island lies parallel to the shore, and forms the harbour of Old Ferolle, which is very good and safe: the best entrance to it is at the S.W. end of the island, passing to the southward of a small island in the entrance, which is bold-to. As soon as you are within it, haul up E.N.E., and anchor under the S.W. end of Ferolle Island, in 8 or 9 fathoms, good ground, quite landlocked. There is also good anchorage anywhere along the inside of the island, and a good channel up to the N.E. end thereof. There are some little islands lying at the N.E. end of Ferolle Island; and on the outside are some ledges of rocks, a small distance off.

BAY OF ST. GENEVIEVE.—From the north end of Ferolle Island to St. Genevieve Head the course is E.N.E. 4½ miles; and thence to the west end of Currant Island it is north-eastward, about 3 miles. There are several small islands lying in and before this bay, only two of which are of any considerable extent. The before-mentioned Currant Island is the northernmost of the two, and the largest: it is of a moderate height, and when you are to the E.N.E. of it, the western point will appear bluff, but not high; and when you are to the westward of it, it appears flat and white. The other, named Gooseberry Island, lies nearly a mile to the southward of it, and its west point bears from the west point of Currant Island S.S.W. ½ W. nearly a mile.

Gooseberry Island has a cross on its S.W. end, from which point a ledge of rocks stretches out nearly half a mile to the southward; there is also a shoal about half a mile to the W.S.W. from the S.W. point of Currant Island. The best channel into this bay is to the southward of these islands, between the rocks which stretch off them and a small island lying S.S.W. from them near to the south shore. In this channel, which is very narrow, there are not less than 5 fathoms at low water; and the course is in E. by S. southerly, until you come the length of the before-mentioned island: passing which, you should haul to the southward, and bring St. Genevieve Head between the small island and the main, in order to avoid the Middle Bank. You may either anchor behind the small island, in 5 or 6 fathoms water, or proceed farther, with the said mark on, until the S.W. arm is open, and anchor in the middle of the bay, in 7 or 8 fathoms water. Wood and water may be procured here. There is tolerable good anchoring in most parts of the bay; but the snuggest place is the S.W. arm; the entrance to it is narrow, and has only 4 fathoms at low water. In coming into the bay, if you get out of the channel on either side, you will shoalen your water immediately to 3 or 2 fathoms.

BAY OF ST. BARBE.—From the west end of Currant Island to St. Barbe Point the bearing is E. by N. 2½ miles; and from St. Barbe Point to Anchor Point it is N.N.E., nearly 1½ miles. Between them lies the Bay of St. Barbe, which runs in S. by E. about 2 miles from Anchor Point. To sail in, give Anchor Point, and all the east side of the bay, a good berth, to avoid the sunken rocks which lie along that shore; you must be well in before you can discover the entrance into the harbour, which is very narrow; then steer south, keeping in the middle of the channel, and anchor as soon as you are within the two points, in a small cove, on the west side, in 5 fathoms water, on sand and mud, quite land-locked. Near this place branch out two arms, or rivers, one named the South, and the other the East; the latter has 3 fathoms a good way up, but the former is shoal. Between the S.W. point of the bay and the west point of the harbour is a cove, wherein are sunken rocks, which lie a little without the line of the two points. In the open bay are 7, 8, or 9 fathoms; but the N.W. winds cause a heavy sea to fall in here, which renders it unsafe.

From Anchor Point to the extremity of the Seal Islands, the course is N.E. 4 leagues. Off Anchor Point a ledge stretches W. by S. about one-third of a mile. There are no other dangers between it and the Seal Islands but what lie very near the shore. The Seal Islands are white and rocky, and must be approached with care on their north and western sides, because there are some sunken rocks near them.

From the N.W. Seal Island to the N.W. extremity of Flour Ledge, it is N.N.E. nearly 2 miles; part of this ledge appears at low water, and there are 10 fathoms close on its off-side.

From the north part of Flour Ledge to Grenville Ledge, the bearing is E. by S. about 1½ miles. Grenville Ledge lies about two-thirds of a mile W. by N. from the eastern point of Mistaken Cove, between which and Seal Islands lie also Nameless Cove and Flour Cove, neither of them being fit for ships.

SAVAGE COVE.—Close to the eastward of Mistaken Cove is Savage Cove, which has a little island in its entrance, and is only fit for small vessels and boats. Sandy Bay lies 2 miles eastward from Savage Cove; here small vessels may anchor in 3 or 4 fathoms water, with the wind from E. to S.W.

About E.N.E. 5 large miles from Sandy Bay, is Green Island; between them, at 3 miles distant, W. ½ S. from Green Island, is the north extremity of Double Ledge, which extends nearly two-thirds of a mile from the shore, and has only 8 or 9 feet water on it. Green Island lies about three-quarters of a mile from the main, is two-thirds of a mile in length, very low and narrow, and agreeable in colour to the name it bears; from the east end of it a ledge of rocks extends three-fourths of a mile to the eastward, on which the sea breaks in bad weather. There are 4 or 5 fathoms water in the channel between the island and the main, where ships may anchor, if necessary. To go in from the westward, keep the island close on board for the deepest water, which is 4 fathoms; and going in from the eastward, keep the main on board. From this island to the opposite part of the Coast of Labrador, named Castles or Red Cliffs, the bearing and distance is about N.N.W. and S.S.E. 3½ leagues. Hereabouts is the narrowest part of the Straits of Belle Isle.

From Green Island to Boat's Head the bearing is E. ½ N. 6 leagues; between there is a shelter on the coast, but to the south-eastward of Boat's Head is a Cove, named

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Boat Harbour, where small vessels and boats may lie very secure, except with N.E. winds.

Cape Norman is 40 miles from Bogg's Head, and is the northernmost point of land in New Brunswick already stated.

SOUNDINGS IN THE STRAIT OF BELLE ISLE, &c.—In crossing the Strait of Belle Isle from St. John's to Chateau Bay, your soundings will be irregular, from 30 to 30, and in some places from 30 to 38 fathoms. In the stream, or middle of the strait, you will find 25 and 35 fathoms, coarse sand and broken shells, and towards Chateau Bay 45 to 60 fathoms; within a mile of the Labrador Coast are 35, 30, and 25 fathoms. To the northward, between Belle Isle and St. Peter's Bay, there are 59, 58, 50, 56, 55, and 30 fathoms.

Captain Bayfield says:—"The soundings in the strait are so irregular that they afford very little assistance to a vessel at night, or during the fogs which so frequently prevail. In general the deepest water is on the Labrador side, as, for instance, from York Point to Red Bay, where, however, it is interrupted by the shallow water of Wreck Bay. It is also very deep on that side, from Black Bay to Forteau Bay inclusive; but the line of deep water is not direct, nor, I believe, continuous through the strait, and it is still more perplexing, that there is as deep water within 3 miles of the dangerous Flour Ledge on the Newfoundland side, opposite Forteau Bay, as in any part of the strait. The depth of water varies in different parts from between 60 and 70 to 30 fathoms, and the nature of the bottom is as various as the depths, being sometimes of rock, and at others of sand, broken shells, pieces of coral, or gravel. Fogs occur with all southerly and easterly winds, and they are frequent likewise with the S.W. wind; it is only when the wind is from between the north and west, that clear weather can be safely reckoned on.

Near the shores on either side there is usually a regular alternation of flood and ebb in fine weather, but it is not constant. The flood comes from the northward along the coast of Labrador, and also from the S.E., from Cape Bogue to Cape Norman. The latter stream, I have reason to believe, is often turned off to the northward by Cape Norman, and the same thing takes place at Green Island, on the Newfoundland side towards Greenly or Greenlet Island, on the opposite side of the strait. There is, moreover, at times, a stream running from the S.W. for several days together, along the west coast of Newfoundland. This stream occasionally sets from Point Ferrolle obliquely across the strait towards Forteau Bay. Sometimes, and especially with N.E. winds, the current runs directly in an opposite direction along the west coast of Newfoundland, from Point Ferrolle past Point Rich. In short, there is no constancy either in the rate or set of these streams, for the winds and the irregular tides modify the set and rate of the equally irregular currents, in a manner which it is extremely difficult, if not impossible, to calculate upon with any degree of certainty. The prevailing current from the northward comes from between Belle Isle and the coast of Labrador. It is often at the temperature of the freezing point, drifting many icebergs into the strait, and frequently carrying them through it many miles up the Gulf. Some of these bergs ground in deep water, whilst others are continually changing their position. They are much more numerous in some seasons than in others, as I have seen 200 bergs and large pieces of ice in the strait in the month of August in one year, whilst there were not above half-a-dozen in the same month of the following season.

I have observed this current from the northward and eastward assisted by the N.E. wind, running 3 miles an hour; whilst at other times it was almost insensible. It is even reported that there is sometimes a current in the opposite direction, and I believe that this report of the current is correct, especially during the ebb tide, and when S.W. winds prevail in the Gulf. At the same time that this current is running to the westward, there is at times a stream of warmer water running out to the eastward on the Newfoundland side, especially during the ebb tide.

Navigation of the Strait at Night.—From these remarks it will plainly appear that the navigation of the strait is attended with very great danger in dark or foggy nights, during which no vessel should attempt to run through; for I have found that, with all our experience, we could not be sure of the vessel's position within 10 miles under such circumstances. On the approach of a dark or foggy night, therefore, it would be prudent to anchor in some one of the bays in the north side of the strait, rather than continue under way. A vessel bound in to the Gulf, and running with

an easterly wind, will, however, find no place fit for that purpose until she arrives at Black Bay, and that is not a very good anchorage, for Red Bay cannot be entered by a large vessel with an easterly wind. Loup Bay is the first good anchorage under such circumstances, and there the vessel would be so far advanced in her run through the strait that it would not be worth while to stop, since she might easily clear everything in the remaining short distance. But with a S. W. wind, at the approach of night, and appearance of a fog, a vessel bound out through the strait to the eastward had better stand off and on under easy sail, tacking by her deep-sea lead from the Newfoundland side till morning, if she be not farther to the eastward than Point Ferrolle. If she be farther advanced, she had better endeavour to make Forteau Bay before dark, and anchor there for the night. In light winds or calms, during dark nights or foggy weather, it is better to bring up with a stream anchor anywhere in the strait than to drive about with the tides, without knowing whither, but then a look-out must be kept for drifting icebergs."

PART II.

COAST OF LABRADOR.

YORK POINT TO SANDWICH BAY.

YORK POINT in long. $55^{\circ} 55' 30''$ W. forms the west point of Chateau Bay; it is quite bold, and so is Chateau Point to the westward, but has shoal water 50 fathoms off it to the S.E. To the N.W. of the point is a ridge of high land named the High Beacon, estimated to be 959 feet above the sea at high water. York Point may be considered to be the north point of the eastern entrance to the Strait of Belle Isle.

CHATEAU or YORK BAY lies about 19 miles N.W. $\frac{1}{4}$ N. from the southern part of Belle Isle, and 27 miles N. $\frac{1}{4}$ W. from Quirpon Harbour, and may be easily recognized by its position with reference to the remarkable Table Head and the Peter Islands; by the high land in its rear; and by there being a straight and unbroken coast, free from islands to the westward of it, but more especially by the two wall-sided and flat-topped hills, 200 feet high, situated upon Castle and Henley Islands, which lie at its entrance. Within the bay are Henley, Antelope, and Pitt's Harbours, the two last of which are perfectly secure and fit for the largest vessels. The principal entrance to Chateau Bay is between Chateau and York Points, the latter bearing from the former W.N.W. $\frac{1}{4}$ W. 14° miles. Within this entrance, at the distance of $1\frac{1}{2}$ miles to the northward, is Whale Island in the entrance of Temple Bay. Temple Bay has deep water, but no good anchorage, although small fishing-vessels occasionally moor on the west side, just within Temple Pass (the south entrance to the bay), where, as also on the north-western side of Whale Island, there are huts and stages of the fishermen. On the north side of Whale Island is Whale Gut, 200 fathoms wide, with a clear navigable channel of 100 yards with a depth of 4 fathoms. Exactly half-way between York Point and Temple Pass there is a small ledge of 3 fathoms water.

Henley Harbour, formed by Stage Island, is fit only for small vessels, although there is a depth of water of from 4 to 6 fathoms. It is a quarter of a mile long by a cable's length wide, and its only navigable entrance faces the south, in which direction are the basalt columns of Castle Island. Some swell rolls in with south-west winds.

Antelope Harbour is on the east side of the bay to the northward of Henley Island, and between the latter and Barrier Point, which, with its reef, separates it from Pitt's Harbour to the northward. The passage leading into both these harbours is between Stage and Henley Islands to the eastward, and to the westward, Whale and Flat Islands. The shoal water extends off to the westward of Stage Island 140

YORK POINT TO SANDWICH BAY.

fathoms; and off to the eastward of the south-east extremity of Whale and Flat Islands 100 fathoms. Besides these, there are three small ledges, the first and outermost of which, with 2 fathoms on it, lies exactly in a line from the west extreme of Chateau Point to the east extreme of Whale Island; and with the south extreme of the Seal Islands seen through the narrow channel between Castle and Henley Islands, bearing E. $\frac{1}{2}$ N.; the second, with 3 fathoms on it, lies 160 fathoms from the east side of Flat Island; and the third, with only 9 feet, lies between the east extreme of Whale Island and Black Point, the north-west point of Henley Island. Off Black Point is the Black Rock, small and low, but always above water.

Pitt's Harbour is very superior to Antelope Harbour, being sufficiently roomy to accommodate a large fleet, and well sheltered from all winds. It is a mile long by three-quarters of a mile broad, and has a depth of 18 fathoms in the centre, decreasing gradually to 4 fathoms close to the shore on either side; the bottom is of mud.

To enter Antelope and Pitt's Harbours, bring York and Chateau Points in one, N.N.E. $\frac{1}{2}$ E., and run in on this course, which leaves the first ledge 50 fathoms to the right, till you arrive between Flat and Stage Islands, leaving the second ledge on the left; haul a little to the northward, and pass close to the westward of the Black Rock, and rounding it to the eastward, you enter Antelope Harbour. To enter Pitt's Harbour, as soon as Black Rock bears East, change your course to N.W. by N., or keep the south-west extremity of the basaltic columns of Henley Island open to the westward of Black Point, and you will clear the Barrier Reef, leaving it to the eastward. Continue to run on this course or leading mark until the east extremity of Whale Island and the west extremity of Chateau Point, on Castle Island, come in one, bearing S. $\frac{1}{2}$ W. Then change your course to N. $\frac{1}{2}$ E., or, so as to run up the harbour with the last-named marks on, and you will clear the shoal water extending 50 or 60 fathoms off Pitt's Point, and may anchor where you please.

About a mile to the eastward of Henley Island is Seal Island, and about $1\frac{1}{2}$ miles further is Duck Island; the space between is named Bad Bay, a place, as its name imports, of no anchorage. It is open to easterly winds, and in it there are rocks both above and under water.

The St. Peter Islands are a cluster of barren islets, with many rocks above and under water scattered about them, lying about S.W. $\frac{1}{2}$ W. 3 miles from Table Head. The easternmost of the group are called the Peterel Islands, because those birds breed on them. Within these islands, in the main is St. Peter's Bay, affording indifferent anchorage although useful in cases of necessity. It is completely open to the S.E. Nearly 300 fathoms to the westward of the innermost inlet is a 2-fathom shoal, and a reef extends off Point Peter, the south point of the bay, 160 fathoms towards the south-east. The anchorage is three-quarters of a mile from the head of the bay in 15 to 20 fathoms, sandy bottom. Wood and water may be obtained.

Table Head, to the N.W. of the Peterel Islands, is very remarkable, being an isolated mass of basaltic columns upon sandstone, (flat at top, and precipitous all round,) the summit of which is 300 feet above the sea. To the eastward of it is Truck Island; to the N.E. of Truck Island is White Mica Cove, fit only for boats.

Camp Bay is sheltered towards the N.E. by the Inner and Outer Camp Islands. In the bay are three small islets, and a rock, awash, 162 fathoms to the south-eastward of the outermost. The Inner Camp Island, about 300 feet high, and three-quarters of a mile in diameter; is separated from the south point of Nigger Sound by a boat-channel in which are fishing stages and butts. The Outer Camp Islands, $1\frac{1}{2}$ miles long, are not quite so high, and are also of bare granite; they are separated from the former by a channel 200 fathoms wide, and clear of danger. On the west side of the islands is a small cove used by the fishermen, who moor to the rocks, but are unprotected from the south-west winds.

NIGER SOUND is to the north of the Camp Islands, between them and Cape St. Charles. It is about $1\frac{1}{2}$ miles wide, runs up about 6 miles, and contains several places of good shelter. About $2\frac{1}{2}$ miles within the entrance is Nigger Island, about $1\frac{1}{2}$ miles in extent, and to the southward of this is Smooth Island much smaller and lower. The channel between these islands is unsafe, but you may pass north and south of them without danger. Good anchorage is to be found in Horn Bay at the head of the Sound, and also in Inlet Bay, north of Nigger Island.

ST. CHARLES HARBOUR.—Cape St. Charles, on the north side of which is the

harbour, may be readily known by the round hill of the same name, 654 feet high, bearing N.W. by W. 850 fathoms from the cape, and which is the highest land on this part of the coast. The harbour may also be known by St. Charles Island, situated a long mile off the cape to the S.E. by E., which is high and about half a mile in length, with several large rocks close off its inner side; outside of it is Low Island, to the south-west of which about one mile, is the situation of a reported danger. Between these islands and the cape is a clear navigable channel.

The harbour is formed by three islands, which lie along the east side of the cape. The space in which vessels anchor is about 600 fathoms long by 280 fathoms wide; and the depth is from 5 to 12 fathoms on mud. South-east winds bring in some sea, on which account it is not considered a very secure harbour for large vessels, excepting in the finest months of summer. The south-easternmost island protecting the harbour is Fishflake, between which and the main small vessels may be perfectly secure in 9 to 10 feet water, by making fast to the rocks, but this channel cannot be made use of as an approach to the harbour, being too shallow to be serviceable. Blackhill, which is high, black, and precipitous, is the next island, and Spafe Island is the innermost. The channel out of the harbour to the N.W. of Spafe Island, is intricate, and only fit for boats. The entrance into the harbour is between Fishflake and Blackhill Islands, and is quite clear. The S.E. extreme of Fishflake Island appears like the extremity of Cape Charles, and bears E. by S. $1\frac{1}{2}$ miles from St. Charles Hill. When running for the harbour, steer for the north-east side of Fishflake Island, so as to pass its south-east extremity at the distance of about 150 fathoms, steering N.W. by W., and that course will take you through the entrance between Fishflake and Blackhill Islands, into the harbour clear of all danger. There are three small rocks above water off the N.W. point of Fishflake, but they are bold-to, as are also the shores on either side.*

St. Charles Channel is between the main and Caribou, Size, and Muddle Islands; it contains deep water, with no detached shoals. The course up the centre of this fine channel to the Narrows, is N.W. $\frac{1}{2}$ N. $3\frac{1}{2}$ miles. A run of half a mile North, through the Narrows, leads into the channel, between Muddle Island and the main, which is deep, and free from all dangers. The course through this channel to the mouth of St. Charles River is N.N.W. $1\frac{1}{2}$ miles; and a vessel may either run up that bay to the westward, or through Muddle Channel eastward, into St. Lewis Sound. St. Charles River runs East, and is nearly a mile broad, but about 2 miles up it becomes narrow and intricate. Wood and water may be had in abundance up this inlet.

ST. LEWIS SOUND.—The north point of St. Lewis Sound is Cape St. Lewis, in lat. $52^{\circ} 21' 24''$ N., and long. $56^{\circ} 41' 28''$ W.; it is composed of precipitous, dark red granite hills. At its southern extremity is a small rocky peninsula, and nearly a mile to the eastward of this is St. Lewis Rock, close to the shore.

The Sound is about 4 miles wide at its entrance, between Cape St. Lewis and North Battle Island, the bearing between which is S. by W. $\frac{1}{2}$ W. It is about 8 miles long in a N.W. by W. direction, from its entrance to Telegraph Point at St. Lewis Inlet. The shores are for the most part quite bold, and the water is everywhere extremely deep, often exceeding 50 or 60 fathoms. Nearly in the centre of the Sound are the Middle Rocks, and farther in the River Islands. In the fall of the year, a heavy ground swell called the undertow, sometimes rolls into the Sound from the eastward, as far as the entrance of the Inlet, which comes in tremendous waves, often without wind, and bursting over the rocks 30 feet high, proceeds with irresistible force against the sides of the precipices. It is, however, not so dangerous to boats as the short breaking sea of the Gulf, and it discovers shoals, as everything with less than 4 fathoms on it is sure to break.

On the north side of the Sound there is a small cove, named Fox Harbour, at $1\frac{1}{2}$ miles N.W. from Cape St. Lewis, which affords secure anchorage in 5 to 6 fathoms, muddy bottom. The east point of the harbour is low, with several fishermen's houses on it, and has a small rock to the northward, joined to it by shoal water, which must be left about 50 or 60 fathoms on your right, to avoid a reef, partly above water, which runs off the south-west extremity of the point separating the harbour

* St. Charles and Battle Harbours are the principal fishing stations on this coast.

YORK POINT TO SANDWICH BAY.

from the unsheltered bay to the westward, and forming the north side of the entrance. Anchor about 300 fathoms within the entrance. Water may be procured, but wood is scarce.

Deer Harbour to the westward of Fox Harbour, is protected from southerly winds by Marnham Island at the entrance, which breaks the fairway into two channels. The principal passage in is to the westward of the island, and has 19 to 31 fathoms, and bold-to to the rocks on either side; the other channel is only fit for boats. There are no dangers which cannot be seen, and the harbour will accommodate any number of vessels, which can beat in or out with facility.

Open Bay to the south-west of Deer Harbour, affords good anchorage near its head, but exposed to the S.E. The water, like that of Deer Harbour, is deep.

ST. LEWIS INLET.—The south point of Open Bay has off it some rocks above water, named the Black Reef, between which and the River Islands is the entrance to St. Lewis Inlet, of nearly a mile in width. The depth is generally above 80 fathoms, so that there is no good anchorage until at Black Fly Island, 9 miles from the entrance, under the west side of which there is good riding in 5 to 9 fathoms, on a bottom of mud and stones; here wood and water may be readily obtained. Above this the navigation is intricate, but it is possible to take a vessel not drawing more than 18 feet $\frac{1}{2}$ miles farther up. Above Black Fly Island is Wood Island, about a mile in length. When running for the Inlet, steer N.N.W. $\frac{1}{4}$ W. 2 $\frac{1}{2}$ miles from the North Battle Island to the North Middle Rocks, (two bare rocks close together, and about 40 feet high,) and having given them a berth of two or more cables on your left, steer N.N.W. $\frac{1}{4}$ W. for 2 miles or more, when the two Seal Islands (small and bare, with shoal water a short distance off their east ends) will be about 400 fathoms on your left. Change your course now to N.W. by W. $\frac{1}{4}$ W., and run in through the channel to the northward of the River Islands, which is three-quarters of a mile wide, and clear, except two small islands which must be passed to the southward at the distance of a cable.

The River Islands, forming the south side of St. Lewis Island, consist of Kalmia, Pocklington, and the Seal Islands. The former two are of bare granite, about 150 feet high. Off the east side of Pocklington Island are several small islets, the easternmost of which are the Seal Islands; and there is also a small sunken rock off the south-east end of the same island, at the distance of a quarter of a mile, upon which the sea usually breaks. Between these islands and the main, to the westward, it is possible to anchor, though the depth is great, exceeding 80 fathoms, with a muddy bottom.

Within the River Islands, in the main, is Fall Harbour, a little place fit only for small vessels, with inferior tiding and exposed to the easterly swell; the depth is three fathoms. To the eastward of this is Cutter Bay, fit only for small vessels on account of an inadequate depth of water, and some rocks lying in it. Isthmus Bay is too much exposed to be of much service; from hence the coast runs to the north-eastward 2 miles to Cape Club, off which a reef extends 70 fathoms to the eastward. At $\frac{1}{2}$ miles S.E. $\frac{1}{4}$ E. from the cape are the South Middle Rocks, above the water, but it is not advisable to approach them nearer than 2 cables' length, unless in fine weather when shoals can be seen.

On the south side of St. Lewis Sound are Battle, Caribou, Muddle, Size, and Surf Islands, among, and within which, are some good harbours. Muddle Harbour is a snug little harbour perfectly land-locked, with 4 to 10 fathoms, between Surf Island, Size Island, and Muddle Island; to enter it from St. Lewis Sound, steer W.N.W. $\frac{1}{4}$ W. 2 miles, to Surf Cape, the north-west extreme of Great Caribou Island, which may be kept close-to, and steer from it S.W. by W. one mile, to the narrows of Caribou Channel, between the south-east end of Surf Island, and the west end of Great Caribou; then proceed for 600 fathoms towards the north-west between Surf and Size Islands, keeping at first nearer to the former than the latter, and afterwards in mid-channel; then haul in to westward, and anchor where you please. The reefs and shoals form the south-point of St. Lewis Sound, and the south-east island is the extreme, both south-west and north-east, of the coast of Labrador. The Ribb Reefs are about half a mile apart, and bear north and south from each other; the north reef bears East $\frac{1}{4}$ miles from North Battle Island; the sea always breaks on them, and vessels ought to pass outside of them. West of them is Great Caribou Island, which is 9 miles in circumference; its south-east side is broken into coves open to seaward, and there are several islets and rocks, and one sunken,

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Battle Harbour is between the Battle Islands and the east end of Great Caribou. It is only fit for small vessels, being about 80 fathoms wide in the entrance, 70 or 80 fathoms wide within, and half a mile long. It is generally crowded with the vessels and boats of the fishermen, which moor to the rocks on either side, and the shores are covered with their houses and stages. There is a good house and store on Signal Island with a high flag-staff which may be readily seen at sea, and from which the island derives its name. The south entrance is only fit for boats; vessels must therefore approach from the northward, passing to the west of the North, Battle, and the islands lying between it and Signal Island. There are two small round islets, the southernmost in the entrance of the harbour; these may be passed close on either side. This harbour is secure during the summer months, but is unsafe in the fall of the year, from the heavy ground-swell before mentioned.

ST. LEWIS CAPE has been previously mentioned. Just round the cape is the entrance of a small cove, named Deepwater Sound, which runs in S.W. $\frac{1}{2}$ W. for half a mile, and is very narrow, but has from 20 to 40 fathoms within it.

PETTY HARBOUR.—From the northern part of Cape St. Lewis to the south head of Petty Harbour Bay, the course is about N.N.E. $\frac{1}{2}$ E.; distant $1\frac{1}{2}$ miles; the shores are bold and lofty. The entrance is $1\frac{1}{2}$ miles wide; and the north point bears from the southern point N.E. by N. The bay runs up nearly N.W. by N., fully a mile, having from 20 to 40 fathoms water in it. At the bottom of the bay is the harbour, the entrance to which is to the northward of a low point of land, shutting the harbour in from the sea, so as to make some difficulty in distinguishing its situation; it is not above 50 fathoms broad at the entrance, with 5 fathoms mid-channel, and 3 towards the sides; but this narrow passage continues only a short way. Having passed through the passage the harbour opens wide, and vessels will have plenty of room, and may anchor in any part, in from 7 to 12 fathoms, land-locked.

From the north head of Petty Harbour Bay to Point Spear, the course is N.E. $\frac{1}{2}$ N., distant $2\frac{1}{2}$ miles; and from Cape Lewis to Cape Spear, in nearly the same direction, 6 miles; between the former points are Barren Bay and Spear Harbour. Barren Bay is a little to the northward of the northern part of Petty Harbour Bay, and affords no shelter; but Spear Harbour, which lies to the southward of Point Spear, is a very excellent harbour. In coming from the northward, and making Point Spear, you will open two islands, in the bottom of a small bay, between which is the best passage into Spear Harbour. Keep the northern island close on board, there being 4 fathoms alongside of it; and after you are about a cable's length within the islands, steer for the middle of the harbour, and anchor in 7 or 8 fathoms; there is good room to moor. Small vessels may go on either side of the islands, the least water being 2 fathoms: but it should be observed that in coming from the southward, you will only be able to distinguish one island, for the other will be shut in with the land, so as not to be seen until you get within the heads.

SOPHIA, CHARLOTTE, AND MECKLENBURGH HARBOURS.—From Point Spear to the entrance of these three harbours the course is N.W. by N., about 3 miles, passing several small but high islands lying within half a mile of the shore; these are commonly named the Spear Islands, and are bold, with channels between them of 20 fathoms water. N.E. by E. $\frac{1}{2}$ E. from the southern head of the entrance to the three harbours, lie two small islands, close together, and therefore named the Double Island, which appear to be as high as they are broad. About a cable's length to the eastward of them are two sunken rocks, over which the sea, in bad weather, constantly breaks. Nearly in the middle of the entrance, also, are two islands so close to each other as to seem but one; these are steep-to, and ships may pass on either side of them, in 12, 13, and 14 fathoms, anchoring within them, in Queen's Road, in 16 fathoms; but to the southward of these islands you will find the widest passage, and most room for ships to work out.

The first and southernmost of these three harbours is Sophia Harbour, running in S.S.W., about $1\frac{1}{2}$ miles, with from 10 to 15 fathoms water; it then trends away, round a low point to the eastward, and becomes much broader; it is thence shoal water, and only fit for small vessels.

Port Charlotte is the middle harbour, and fit for any ship; there is a low flat island on the starboard side of its entrance, from which a reef of rocks extends one-third of

YORK POINT TO SANDWICH BAY.

the channel over, to avoid which you must keep the southern side on board: you will then have 9 fathoms close to the shore, until you get a quarter of a mile within the harbour, when you may anchor in any part, in from 12 to 17 fathoms, only giving the starboard side a berth, to avoid a reef that lies on that side.

Mecklenburgh Harbour, the northernmost of the three harbours, runs in N.N.W. $\frac{1}{2}$ N. and N.W. by N. about 2 miles; in the lower part of it there are 20 fathoms, but as you advance the water lessens, so that in the upper part there are no more than 12 fathoms for ships to moor in. To sail up to the head of the bay, you must keep nearer the port side, in order to avoid the ledge of rocks lying on the starboard, about 80 fathoms from the shore. These rocks lie within the narrowest part of the harbour, and above the low point on the starboard side. The best anchorage is at the head of the harbour.

ST. FRANCIS HARBOUR.—From Point Spear to Cape Francis the course and distance are nearly North, 6 miles, and from the islands at the entrance of the three harbours, just mentioned, to Cape St. Francis, N.E. $\frac{1}{2}$ N., about 6 miles; nearly half a mile to the westward of the cape is St. Francis Harbour, a snug and secure harbour, though small, and generally filled with vessels during the fishing season, considerable fisheries being carried on in its vicinity. There are two entrances to this harbour, one being to the northward, the other to the south-westward of Pigeon Island, which lies directly before its entrance; the south-eastern channel leads to a small but narrow inlet, named Round Harbour; everywhere there is clean ground, with 10 fathoms in the channel as you enter, and the depth gradually decreases as you advance towards its head, where you have 5 and 3 fathoms. In entering to the south-westward for St. Francis Harbour, you should beware of, and give a berth to, the western side of Pigeon Island, for a rocky reef runs off it; proceed on N.N.E. $\frac{1}{2}$ N., and having got fairly between the two points of the harbour, you will perceive on your starboard side a small white rock, to which go not nearer than 7 fathoms; steer up North, and having passed mid-channel, or rather nearer the starboard shore, the rocks above water, which you will see on each side of you, turn westerly, and anchor in 4 or 5 fathoms. Small vessels go to Birnell's Beach, or, up to the cove at the northern extremity of the harbour. Merchantman Harbour is about 2 miles W. $\frac{1}{2}$ S. from St. Francis Island; it is small, but has from 7 to 10 fathoms water.

Cape St. Francis is the eastern point of an island, between which and Granby Island is a very narrow passage for boats, with 4 fathoms water, within it. From this cape, in a N.N.-Westerly direction, about three-quarters of a mile, is Indian Point, which has between it and Jasper Islands south-eastern point an opening leading into Indian Bight and Shoal Tickle, two narrow coves, the latter of which is shallow, and with only 2 and 1 $\frac{1}{2}$ fathoms water in it. To the northward of Indian Point are Hare and Fox Islands, with a narrow passage between them running northward. On crossing from Indian Bight to the channel, you will have deep water, but when you enter the passage it will shallow to 5, 4, 3, and 2 fathoms; this flat will continue for a quarter of a mile; you then deepen your water again to 5, 7, 10, and 12 fathoms. Vessels frequently anchor in this place on the western side of Hare Island, or rounding the northern end of Fox Island, run through Peares's Tickle into Sealing Bight.

SEALING BIGHT is a very commodious and convenient place for the fisheries. The best anchorage is in the northern part of the bay, to the westward of Jasper Island, where you may safely ride in 8, 10, or 11 fathoms, or farther in, with less water. There are several coves, situated along shore, to the northward of this anchorage, affording convenient anchorage for small vessels. Fresh water can easily be obtained; but wood is scarce. The southern entrance to this place is between Indian Point and Jasper Island on one side, and Hare and Fox Islands on the other; the water is deep, and there is no danger, except a reef stretching out to the south-westward from Gull Island, upon which the sea breaks very high in stormy weather; it will, therefore, to avoid this reef, be always prudent to borrow close towards Indian Point, in either sailing in or out of Sealing Bight.

FISHING SHIP HARBOUR.—From St. Francis Island to the northernmost Fishing Island, the course is N.N.E. $\frac{1}{2}$ N., and the distance 3 miles. The Fishing Islands are three in number: the two northernmost are connected by a beach, which, with the main, form Fishing Ship Harbour, where ships may lie land-locked, secure from all winds, in from 14 to 5 fathoms water. The entrance is to the southward, on either side of the southern Fishing Island.

The best passage will be between the two western islands, that entrance bearing from Hare Island N. by W. There is no danger in this channel, and vessels may sail right through it, in nearly a N. by W. direction, up to the very head of the harbour, and anchor in 12 fathoms; here there is good room for ships to moor. There are two other passages into this place, one to the westward from the entrance of Gilbert's River, the other to the northward of all the Fishing Islands; the latter has 7 fathoms through-out, but is so narrow that you will have some difficulty in discovering the opening.

GILBERT'S RIVER.—Between Fishing Islands and Granby Island to the southward is the northern entrance into Gilbert's River; the southern and widest entrance being between Denbigh Island and the main: there is also an entrance between Denbigh and Granby Islands. The passage in has deep water everywhere. The course of the river is nearly N.W. by N., for about 6 miles; it then divides into two branches, one running N.W. by N., 7 or 8 miles, the other S.W. by W., about 6 miles. Both these branches are full of rocks, small islands, and shoals: but in the middle the anchorage is good all the way up, from 20 to 10 fathoms. This river has also a passage out to sea, between Hare and the Fishing Islands.

CAPE ST. MICHAEL.—At 6 miles N.N.E. $\frac{1}{2}$ N. from the northernmost Fishing Island, and 16 miles N.N.E. $\frac{1}{2}$ N. from Spear Point, is Cape St. Michael, which is high and steep towards the sea. It lies in lat. $52^{\circ} 47' N.$, and besides being high and steep towards the sea, may be known by a large bay, named St. Michael's Bay, to the northward of it, having in it a number of large and small islands. The largest of these islands, named Square Island, lies in the mouth of the bay, and is $3\frac{1}{2}$ miles long; and very high; its north-east point is a high round hill, and makes in coming from the southward, like a separate island, being only joined by a low, narrow neck of land.

OCCASIONAL HARBOUR.—About $2\frac{1}{2}$ miles to the southward of Cape St. Michael, is Occasional Harbour, which may be easily known by the Twins, two large rocks, lying $\frac{1}{2}$ of a mile outside of the entrance. They are very near to each other, and vessels may pass on either side of them; the entrance to the harbour is between two high lands, and runs in W. by N. for two miles, then N.W. by N.; both sides are steep-to, without any dangers; good anchorage may be had, in from 10 to 7 fathoms, about $\frac{1}{2}$ miles from the entrance. The wind between the high land sets right into or out of the harbour.

From Cape St. Michael to Cape Bluff the course and distance are about N.N.E., $1\frac{1}{2}$ miles. These two capes form the points of entrance to St. Michael's Bay.

ST. MICHAEL'S BAY.—The best anchorage for small vessels in St. Michael's Bay, is on the south side; that is, keep Cape St. Michael's shore on board, then keep along the south side of the first island you meet with, namely, Long Island, till you are nearly as far as the west end of it, where you may anchor in, from 12 to 20 fathoms; land-locked, and may work out to sea again on either side of Long Island.

From Cape St. Michael to the entrance of Square Island Harbour, the course is N.N.W. $3\frac{1}{2}$ miles; in the entrance lies a small island of a moderate height, to the westward of which is the best passage into and out of the harbour, there being only 2 fathoms water in that to the eastward of it.

About a league N.N.W. from Square Island Round-Hill, lies the entrance into Dead Island Harbour, which is only fit for small vessels, and is formed by a number of islands. Between these islands and Cape Bluff there is a passage out to sea.

Cape Bluff is very high land, ragged at the top, and steep towards the sea. Cape Bluff Harbour is small, and only fit for small vessels. To sail into it, keep Cape Bluff shore on board till you come to a small island, then pass to the eastward of it and anchor.

From Cape Bluff to Barren Island the course is north-eastward, about a league; and from the south point of this island to Snug Harbour the course is N.W. by W., $1\frac{1}{2}$ miles. This is but a small harbour, but in it there is very good anchorage in 26 fathoms water, and there is no danger in sailing in or out.

One mile to the northward of Barren Island lies Stony Island; and within these islands, in the main, are Martin and Otter Bays, in the northernmost of which is very good anchorage and plenty of wood, and no danger but what shows itself.

DUCK HARBOUR.—On the western side of Stony Island is Duck Harbour, which is very good for small vessels. Large vessels may anchor between the west point of Stony Island and Double Island, in 20 or 24 fathoms water, and may sail out to sea again on either side of Stony Island, in great safety.

HAWKE ISLAND lies a mile to the northward of Stony Island. Within Hawke

YORK POINT TO SANDWICH BAY.

Island lies Hawke Bay, which runs to the westward 2 leagues, and then branches into two arms, one running to the W. by S., 2 leagues, and the other N. by W., 5 miles; these arms are well supplied with wood. After you are within Pigeon Island there is very good anchorage up to the head of both arms.

On the south side of Hawke Island lies Eagle Cove, wherein is very good anchorage for large vessels, in 30 or 40 fathoms water. Small vessels may anchor at the head in 7 or 8 fathoms.

CAPLIN BAY.—On the main, within Hawke Island, about 5 miles to the E. by N. of Hawke Bay, lies Caplin Bay, in which is very good anchorage and plenty of wood.

PARTRIDGE BAY lies $\frac{1}{2}$ miles to the northward of Hawke Island. In this bay there is very good anchorage, but difficult of access, unless you are acquainted, on account of a number of small islands and rocks which lie before the entrance. The land here about may be easily known, for the southern point of the bay is a remarkably high and barren table hill, and all the land between this hill and Cape St. Michael is high, while that to the northward of it is low.

SEAL ISLANDS.—From Cape St. Michael to the southernmost of the Seal Islands the course is N.E. $\frac{1}{2}$ N., 9 leagues; and from thence to Round Hill Island it is about N.E. $1\frac{1}{2}$ miles; this latter island is the easternmost land on this part of the coast, and may be known by a remarkable high round hill on the western part of it.

From Round Hill Island to Spotted Island the course is N.N.W. $\frac{1}{2}$ N., distance $1\frac{1}{2}$ leagues. From Spotted Island the land trends N.N. Westward, and is fronted with numerous islands.

SHALLOW BAY.—From the southernmost Seal Island to White Rock, the course is N.N.E. $\frac{1}{2}$ E., about 5 miles; and from this rock the course into Shallow Bay is W. $\frac{1}{2}$ S., $\frac{1}{4}$ miles. There is tolerably good anchorage in this bay, and no danger except a small rock which lies off a cove on the port hand, and about one-third of the bay over: this rock is uncovered at low water. There is very little wood on the shores of this bay.

From White Rock to Porcupine Island the course is N.N.W., distant 2 leagues. This island is high and barren, and you may pass on either side of it into Porcupine Bay, where you will have very good anchorage, but there is little or no wood.

SANDY BAY lies on the southern side of the Island of Ponds, and N. $\frac{1}{2}$ W. 5 miles from White Rock. In it there is very good anchorage in 10 fathoms water, on sandy bottom; but wood is exceedingly scarce, otherwise this would be a convenient place for fishing vessels. Between this bay and Spotted Island are a great number of islands and rocks, which render this part of the coast dangerous.

SPOTTED ISLAND is high barren land, and may be known by several large white spots on its eastern side. It is about 3 miles long, and 3 miles broad, and the northern part lies in lat. $53^{\circ} 28' N.$ Within this island, to the westward, lies Rocky Bay: you may sail into this bay by passing to the northward of Spotted Island, and between either of the islands that lie before the entrance of the bay. There is no good anchorage in the bay, the ground being rocky, until you are between Level Point and Eagle Island, where you may anchor in 8 or 10 fathoms water, good bottom, taking care to give Level Point a good berth. The best anchorage is on the west side of Eagle Island, in 8 or 9 fathoms water, muddy bottom. Passing between Eagle Rocks and Duck Rocks, you may borrow on either side to within two-thirds of a cable's length, or, you may run up and anchor on the south side of Narrow Island, in Narrow Harbour, and be handy for wooding and watering.

From Spotted Island to Wolf Rock, the course is N.N.E. $\frac{1}{2}$ N., 18 miles. This rock just appears above water, and is about 10 miles from the main. There are some sunken rocks about it, and several islands between it and the coast.

Indian Island lies 2 miles to the northward of the entrance of Rocky Bay; it is remarkably high land, the western end being highest. Between this island and the main is tolerably good shelter for small vessels, and it appears to be a good place for a seal fishery.

SAND-HILL COVE.—About 4 leagues to the westward of Indian Island lies Sand-Hill Cove (so named from several sand-hills lying on the southern side of the entrance): in this cove is tolerably good anchorage about $\frac{1}{2}$ a mile within the entrance, in 8 and 4 fathoms water, sandy bottom. In sailing into the cove take care to give the north point a good berth, there being a ledge of rocks stretching off from the point about a cable's length, and which runs to the westward along shore for about 2 cables' length.

TABLE BAY.—The south head of this bay lies 2 leagues to the N. by W. of Sand-

Hill Cove, and may be known by a remarkable table hill on the north side of the bay, at about 8 miles within the entrance; this hill may be seen from the Wolf Rock, which lies N.W. $\frac{1}{2}$ N., 7 $\frac{1}{2}$ leagues from the entrance of the bay. In the bay, about 4 miles from the entrance, lies Ledge Island, so named from a ledge of rocks stretching to the westward from the island up the bay for about 2 miles. On the south side of this island is anchorage, in 12 or 14 fathoms water, in what is named South Harbour, or, you may run higher up and anchor in Table Harbour. On the north side of the bay, just within Ledge Island, lies North Harbour, in which is very good anchorage. In sailing up the bay on the northern side of Ledge Island to Table Harbour, take care to keep the main close on board, in order to avoid a rock lying nearly half-way between the north-western extremity of the ledge off Ledge Island and the main.

THE GANNET ISLANDS are a cluster of islands lying from about 7 to 11 miles from the main; the outer one bears N.N.W. $\frac{1}{2}$ W., 10 leagues from the Wolf Rock.

CURLEW HARBOUR lies nearly S.W. of Gannet Islands, and may be known by a round green island lying before its entrance. The channel into the harbour is between this island and a low point of the main to the southward of it, having a small rock above water, close to the point: there is no danger in sailing into this harbour. The best anchorage for large vessels is about a mile within the entrance, bringing the small rock off the point of the entrance on with the northern point of Long Island (which lies about half a league to the N. by W. of Green Island); they will then lie in 14 or 15 fathoms water, good bottom. Small vessels may run higher up, and anchor in 10 or 7 fathoms water. On the southern side of the harbour is a shoal, lying at a small distance off shore. There is no wood to be had in this harbour, but water is plentiful.

ISTHMUS BAY.—Round the western point of Curlew Harbour lies the entrance into Isthmus Bay: in sailing into it from Curlew Harbour, you should keep Great Island on board, in order to avoid a shoal that stretches off the point towards the island. There is another passage into Isthmus Bay, between the western point and a small bare rock of a moderate height, that lies off the south point of Great Island; this passage is narrow, and has 5 fathoms water in it. Both wood and water may be obtained here.

HARE HARBOUR.—One league to the westward lies Hare Harbour, which is only fit for small vessels, the ground being foul, until you are near the head, where you may anchor in 3 $\frac{1}{2}$ fathoms water, good ground. Hare Island, which lies before the entrance to the harbour, is high land. The eastern point of Huntingdon Island lies about 2 miles to the northward of Hare Island, and W.S.W. $\frac{1}{2}$ W., 13 miles from the outer Gannet Island; it is of a moderate height, and is in length, from east to west, 7 miles. About 1 $\frac{1}{2}$ miles off the eastern point of Huntingdon Island are Saddler and Leveret's Isles, and to the northward of the latter is a rocky flat. There is a safe passage along the south side of Huntingdon Island, leading to Huntingdon Harbour: in it you may anchor in from 15 to 5 fathoms water, but the best anchorage is in about 6 fathoms near the island; here you will lay secure from all winds, and be very handy for wooding and watering, there being plenty of both on the island.

SANDWICH BAY.—On the S.W. side of Huntingdon Island lies Earl Island, on either side of which is a passage into Sandwich Bay, which is a very fine one, being 6 or 8 miles broad and 6 leagues deep, having plenty of wood, and four fine rivers that seem to be well stored with salmon. There is very good anchorage in a cove on the east side of this bay, and on the north side under a high mountain; from the shore at the foot of the mountain and for about 5 miles to the westward, the soundings stretch off gradually from 5 to 25 fathoms, muddy bottom, and are about 3 miles from the shore. The passage into the bay, on the west side of Huntingdon and Earl Islands, has not been sufficiently sounded to be recommended, though it is, by far, the widest. The passage on the east side of Earl Island is narrow, and has but 3 fathoms water in it.

FROM YORK POINT TO CAPE WHITTLE.

PROCEEDING westward from York Point, along the Labrador side of the Strait of Belle Isle, the coast is straight and bold to Wreck Bay.

WRECK BAY bears W. $\frac{1}{2}$ S. 10 $\frac{1}{2}$ miles from York Point, and has a small river at its

FROM YORK POINT TO CAPE WHITTLE.

head, but affords no shelter. Off the east point of this bay, at the distance of $\frac{1}{2}$ miles S. by W. lies a small patch of rocky ground, with 5 fathoms least water. On it the basaltic columns of Henley and Castle Islands are just open to the southward of York Point; and Barge Point, the next extreme to the westward, bears W. by S. distant 6 miles. The bottom can be plainly seen on this patch in fine weather; there is a heavy swell upon it in easterly gales, and frequently a great rippling; icebergs often ground upon it.

Barge Bay, $\frac{1}{2}$ miles to the westward of Wreck Bay, affords no anchorage.

GREENISH BAY, $\frac{1}{2}$ miles W. by N. from Barge Bay, is about 2 miles wide at the entrance but narrows within. Small vessels occasionally anchor in it; but the ground is of sand, not very good for holding, and it is open to the wind and sea from the S.E. About $1\frac{1}{2}$ miles W. by S. from the west point of the bay is Oil Islet, a small low, and bare rock, the south extreme of which bears W. $\frac{1}{2}$ N., $\frac{1}{2}$ miles from Barge Point. Nearly $1\frac{1}{2}$ miles to the westward of this islet, and with its south extreme and Barge Point in one, bearing E. $\frac{1}{2}$ S., lies the Sunk Ledge, a small patch of rocks awash at low water, on which the sea usually breaks. The rocks bear S.E. $\frac{1}{2}$ E., about 3-5ths of a mile from Twin Island, which stands close to the east point of Red Bay.

RED BAY is an excellent little harbour, perfectly sheltered from all winds. It is formed by Saddle Island, lying off the entrance of a bay of the main, which island has a hill at each end, about 100 feet high. To the westward of Saddle Island, at the distance of three-quarters of a mile, is West Bay, affording tolerable anchorage in westerly winds, in 10 or 12 fathoms water, over sandy bottom, but exposed to easterly winds. The outer harbour of Red Bay is between Saddle Island and Harbour Isle, at the entrance of the inner harbour, and the depth is from 6 to 9 fathoms, muddy bottom. The entrance of this harbour from the westward is about 100 fathoms wide, and the space to anchor in is 400 fathoms long, by 200 fathoms wide. There is no entrance eastward of Saddle Island, except for boats. Immediately to the N.E. of this anchorage is the entrance to the inner harbour, which is between Harbour Isle and the main to the eastward, and 100 fathoms wide; but shoal water on either side diminishes the deep water channel to about 50 fathoms in breadth. The depth that can be carried in is 7 fathoms. Within there is a capacious basin, nearly three-quarters of a mile in diameter, 16 or 17 fathoms deep, over muddy bottom, and where many vessels might safely winter.

Captain Bayfield says that "Red Bay is easily entered with a leading wind, but nothing larger than a schooner of 150 tons can beat in or out. The dangers outside the harbour to be avoided are the Sunk Ledge, off the Twin Island; another small rocky shoal about 170 fathoms off the south side of Saddle Island; and a rock awash about 70 fathoms south from Peninsular Point. Running for the harbour from the eastward, the first will be avoided by keeping Greenish Point just open to the southward of the bare islet to the westward of it, till the west extreme of Saddle Island bears N.W. $\frac{1}{2}$ N. Then steer N.W. $\frac{1}{2}$ W. for the entrance of the bay between Saddle Island and the point of West Bay, taking care not to go nearer to the former than a quarter of a mile, or by the lead than 11 or 10 fathoms. As soon as the west end of Saddle Island bears N. by W., you may haul up for it, and round it to the eastward within 20 fathoms; but observe that farther in, that is, off the north point of the island, there is a reef running out 70 fathoms to the northward, or towards Harbour Isle. The channel between this reef and the shoal of large stones connecting Harbour Isle with the main land to the westward of it is only 100 fathoms wide. As soon as you are through this entrance, you may choose your anchorage, only at a distance of 70 fathoms. A vessel moored here will be perfectly secure from all winds; but if you wish to go into the inner harbour, there will be no difficulty in doing so with your chart, or if you first send a boat to look at the narrow entrance.

In approaching Red Bay from the westward there is nothing in the way, excepting the rock off the Peninsular Point near West Bay, already mentioned; and which, being so close to the shore, may be easily avoided.

Carrol Cove, about $\frac{1}{2}$ miles W. by S. from Red Bay, is very small, but affords accommodation to a few vessels. About 4 miles to the westward of Carrol Cove is the easternmost of two small islands, a mile apart, named the Little St. Modest Islands, which have a dangerous rock awash at low water off them, half a mile S.E. by S. from the west extreme of the western isle. St. Modest Isle, on the opposite or west

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side of Black Bay, is bare; within it, fishing vessels moor to the rocks on either side.

BLACK BAY, 11 miles west of Red Bay, is 3 miles wide, and about 2 miles deep. It is open to S.E. winds, which send in a heavy swell, but there is tolerable anchorage in 10 fathoms off a fine sandy beach, to the west of a river at the head of the bay. There is a rocky shoal of 2 fathoms one mile N.E. of St. Modest Island.

From St. Modest Island, 1½ miles S.W., is Cape Diable, and to the west of this is Diable Bay, which with Loup Bay, 3 miles farther, may be readily known by the magnificent cliffs of red sandstone, 300 or 400 feet high, which extend two or three miles between them. Schooner Cove is on the S.W. side of Loup Bay; it is open to the eastward, but fishing vessels use it in the summer months. There is a fishing establishment and several houses in this cove. The anchorage in Loup Bay is extremely good, particularly in the N.E. corner of it; and although open to the south, vessels ride here all the summer.

FORTEAU BAY, 4 miles west of Loup Bay, is 4 miles broad between Point Belles Amours, the S.E. point, and Point Forteau, the S.W. point, which points bear from each other E. ½ S. and W. ½ N. It is about 2½ miles deep, and runs to the northward. At the head of the bay is a fine sandy beach, and a large and rapid river, abounding in salmon. There is a fine fall of water 1½ miles within the bay, from Point Forteau, which, with a remarkable high rock off the S.W. of Point Belles Amours, will serve to point out the bay to strangers. It is considered to be the best roadstead in the Strait of Belle Isle, and the Jersey vessels, employed in the fishery lie moored all the summer; they have large fishing establishments on the west side of the bay. The best anchorage is on the N.W. side, opposite the fishing establishments. From Point Amour, across the entrance of the Strait of Belle Isle, to the N.W. extremity of Newfoundland, the distance is 9½ miles.

Four miles W.N.W. from Forteau Point is a small bay open to the southward, named St. Clair, which affords no anchorage. Off its east point a small low inlet and reef extend some distance.

About 3 miles to the westward of St. Clair Bay is the bay of Blanc Sablon, which is exposed to westerly winds, but sheltered to the S.W. by two islands named Wood and Greenly. It is an unsafe anchorage, particularly in the fall of the year, and during winds from the west, which send in a very heavy sea. It is a mile deep, and 1½ miles wide; and on a projecting point at the head of the bay, are the buildings of a fishing establishment. Close to the east side of this projecting point is a reef of rocks which runs off 300 fathoms from the shore.

Wood Island, off Blanc Sablon Bay, is low and barren, and about 1½ miles long; it has some fishing establishments on its east side. From its west side a reef extends a quarter of a mile.

Greenly Island lies 1½ miles west of Wood Island, and between them is a clear channel. Off the south point of the island, at the distance of about 200 fathoms, is a rocky shoal. On its east side is a cove sometimes used by the fishers, but this anchorage, as well as that under Wood Island, is not good.

One mile and a half westward of Blanc Sablon Bay is Gulch Cove, a small inlet of the main, off the entrance of which there are some rocks which shelter it; it is so narrow, that there is not room for the smallest schooner to turn about in it, hence the vessels which frequent it are warped out stern foremost.

From Blanc Sablon Bay to Grand Point, the distance is 2½ miles. Off it is a dangerous reef of rocks, 850 fathoms to the south and west; and eastward of this reef, for 1½ miles, there are rocks above and under water, extending off the shore for a quarter of a mile in some places.

Parroquet Island lies N. by W. ½ W. 1½ miles from Grand Point. It is high, and less than half a mile in diameter, and frequented by vast flocks of puffins. It is nearly half a mile from the land, but there is no channel between.

Three miles in the same direction (N. by W. ½ W.) from Grand Point, is the edge of the shoals on the south side of Ledges Island, between which island and Parroquet is the passage to Bradore Harbour. Opposite to the centre of this island, on the main, to the eastward, is an establishment which is about 1½ miles N.N.E. from the west side of Parroquet Island.

BRADORE HARBOUR.—Bradore Harbour, on the east side of Ledges Island, should be approached from the southward, between a chain of islands off the island,

which are quite bold-to, forming the western side of the channel; and the coast of the main, on which is the before-mentioned establishment, forming the eastern side. There is no passage to this harbour to the north or west of Ledges Islands, as the space is crowded with rocks and dangers, although there is a narrow and very deep channel for small vessels close on the island. To enter Bradore Harbour, coming from the eastward, give Grand Point a berth of half a mile, to avoid the reefs lying off it, or take care that the west extreme of Perroquet Island does not bear to the west of North. Perroquet Island may be passed as near as a quarter of a mile. Having passed it, haul towards the entrance till the west extreme of Greenly Island is half a point open of the west extreme of Perroquet Island, or bearing S. $\frac{1}{2}$ W., in order to clear the Gull Rock and Ledge, which bear S.W. by W., and are distant 280 and 480 fathoms respectively from Point Jones, on which the houses stand. The rock just covers at high water, and therefore can always be seen; but the ledge has 2 fathoms least water, and therefore is extremely dangerous. On the west side of this ledge, the west ends of Perroquet and Greenly Islands are in one, and they may therefore be avoided by the course above mentioned. Proceed on this course N. $\frac{1}{2}$ E., till Jones's house bears E.N.E. and the northern islet on the east appearing like the north extreme of Ledges Island; N.E. by N.; then steer for the latter, leaving the Gull Rock to the east, and looking out for a small rock lying off an island on the opposite side, after passing which, the channel is clear, keeping nearer the islets than the main. A run of about 700 fathoms from the houses, will bring you opposite the entrance of the harbour, when you must haul sharp round to the westward, between the islets into the harbour; this entrance is 80 fathoms wide and 8 fathoms deep. The harbour is perfectly land-locked, and will accommodate but a small number of vessels; the depth is from 4 to 17 fathoms, muddy bottom.

In approaching Bradore Harbour from the west, beware of the reefs, extending three-quarters of a mile to the south-west of Ledges Island, which may be cleared by not bringing Perroquet Island to bear to the southward of S.E. by E. until Jones's house bears N.E. by E.; then steer for the latter, until the marks come on for clearing the Gull Rock and Ledge, when you must proceed as before directed.

To the north-west of Bradore Harbour are the Bradore Hills, conspicuous as being the highest land on the coast. They consist of three round-backed mountains, the northernmost of which is the highest, being 1264 feet above the level of the sea.

Bradore Bay, between the harbour and Point Belles Amours, is considered to be dangerous on account of the straggling rocks scattered about, and of its exposure to southerly winds, which send in a heavy sea. Point Belles Amours is a mound of red granite, 60 or 70 feet high and will be easily recognized.

BELLES AMOURS HARBOUR.—This harbour lies to the north-east of Point Belles Amours, the north-east side of the entrance being named Stony Point, from which at $\frac{1}{2}$ miles S. by E. are the Flat Rocks. Harbour Point is a bare granite hill, 150 feet high, with several stone beacons upon it, situated $\frac{1}{2}$ miles within Point Belles Amours on the western side. To enter the harbour by the eastern passage, steer N. by W. $\frac{1}{2}$ W., so as to leave the Flat Rocks a quarter of a mile to the eastward; proceed on this bearing until you have approached the east side of Harbour Point, as near as 100 fathoms, taking care, however, not to approach Stony Point within a cable's length. Then steer N. until you are abreast of the rock above water off the sandy part of Harbour Point, when you must haul a little to the westward, so as to bring the east side of Harbour Point and Pond Point (nearly opposite to Stony Point) in one. Keep them in one, in order to round the north extreme of the Flat, and you will have 4 fathoms until Mark Point (the extreme on the north side within the harbour) comes on with Peak Point (a remarkable rocky point in Middle Bay), seen over the low land at the head of the harbour, and bearing W. $\frac{1}{2}$ S. As soon as this mark comes on, haul sharp round to the westward, keeping at a less distance than a cable's length from the high north-shore until you are well within the sandy spit, when you may haul to the southward, and anchor anywhere, in from 5 to 7 fathoms, muddy bottom.

Nearly midway between Point Belles Amours and the Flat Rocks, there is a rocky patch, with only 2 fathoms water upon it; and there are other patches of $\frac{3}{4}$ fathoms between it and the point. To enter the harbour by this westerly passage, which is preferable in westerly winds, take care not to shut in Stony Point behind Point Belles Amours, for fear of the Middle Ledges, which lie off Middle Point, the outermost being 600 fathoms off shore. Pass Point Belles Amours at the distance of 200

fathoms, and keep at that distance from the shore till you have passed Pond Point; then bear away to Harbour Point, and proceed as before directed.

Belles Amours Harbour is a fine place, where a number of vessels may lie perfectly land-locked; water may be had, but wood for fuel is scarce.

At $1\frac{1}{2}$ miles W. $\frac{1}{2}$ N. from Point Belles Amours is Middle Point, with several rocks off it, and $1\frac{1}{2}$ miles farther is Five Leagues Point, the coast between bending inwards two miles, and forming a fine open bay named Middle Bay, in which you may anchor in from 4 to 13 fathoms, sandy bottom, free from all danger. For the first mile in, the shore should not be approached nearer than 150 fathoms.

Five Leagues Point is the extremity of a low peninsula which is remarkable for an isolated and precipitous hill nearly 200 feet high, at three-quarters of a mile north-east from the point. Off the point a reef runs a quarter of a mile to the south-west, outside of which, in the same direction, are the two Barrier Reefs which may be cleared by bringing the south extremities of Middle and Belles Amours Points in one, bearing E. $\frac{1}{2}$ S.

To the westward of Five Leagues Point is the harbour of the same name, which is quite unfit for any but small vessels. At $3\frac{1}{2}$ miles, W. by N. from Five Leagues Point, is Salmon Islet, which is nearly joined by a spit of sand to Caribou Island, and off which the shoals extend nearly 400 fathoms to the S.E. Between Caribou Island and the main, to the east of it, is the eastern entrance to Salmon Bay, which has but 6 fathoms depth at low water; the other entrance is from Bonne Esperance Harbour round to the north of Caribou Island, in which is plenty of water, and good shelter.

BONNE ESPERANCE HARBOUR, considered to be the best on this part of the coast, lies to the westward of Caribou Island. A good mark for the harbour is Whale Island, the south-easternmost of the Esquimaux Islands, which lies N.W. by W. $\frac{1}{2}$ W., $18\frac{1}{2}$ miles from Greenly Island, at the entrance of the Strait of Belle Isle, and is made conspicuous by a roundish hill near its centre, having on its summit a pile of stones, as there is also on almost every one of these islands. Whale Island bears W.S.W. $\frac{1}{2}$ W., $4\frac{1}{2}$ miles from Salmon Islet, before mentioned. Between them lie the islands forming the harbour, which are very steep, and of bare granite. To the south-west of Caribou Island lies Goddard Island, which is joined to it and another islet by shoal water; it has a small rock above water off it, 130 fathoms to the south-west, and 350 fathoms to the south of it is Goddard Rock, which dries at low water. On the other side of the channel, opposite to these rocks, are the Watch, a small uncovered rock, and Breaking Ledge, which just covers at high water. The entrance to the harbour between the various dangers, is 460 fathoms wide, with 17 fathoms water in the centre. Beacon Islet lies W.S.W. $\frac{1}{2}$ W., nearly a mile from Goddard Islet; it is rather low, and has a pile of stones on it. Three-quarters of a mile west of it is Red Head, an island bearing E.N.E. 600 fathoms from Whale Island; between them is Fish Islet. To the north-east of Red Head Island is Chain Island, formed of two peninsulas, and beyond it Bonne Esperance Island, three-quarters of a mile long and 150 feet high. Lion Island lies a quarter of a mile east of Bonne Esperance Island, and between them is a low islet joined to Lion Island by shoal water, but leaving a narrow and difficult channel between it and Bonne Esperance Island. Off the east side of Lion Island is the Whelp Rock, always uncovered, at 50 fathoms from the island. Between this rock on the west, and Goddard and Caribou Islands on the east, is what may be termed, the inner entrance from the main channel; it is 450 fathoms wide, and has 10 to 13 fathoms water.

To enter Bonne Esperance Harbour, from the eastward, with the wind from the east, stand toward Caribou Island, and when off the south side, at half a mile from it, the south sides of Beacon and Red Head Islets, and the north side of Fish Islet, will be in one, bearing W. $\frac{1}{2}$ N. Bear up on this mark, or else steer West, keeping the lead going, and a sharp look out for Goddard Rock. You will have about 9 fathoms at low water, until past this, when it will deepen suddenly to 16 or 19 fathoms, and then you will be in the channel. Steer immediately N. by E., and Whelp Rock will be right ahead and appear in one with the west side of House Island, which lies close under the main land, about a mile from Lion Island, and has a house on it. Keep on this bearing till past Bold Rock, the south-west point of Goddard Island, when you must bear a little eastward, clear Lion Bank and Whelp at a cable's length, and then run up W.N.W. along the inner sides of Lion and Bonne Esperance Islands into the harbour, where you please, in 12 to 16 fathoms.

over a muddy bottom. The whole bay may be considered as a harbour, and is so good that it will afford accommodation for a fleet. Wind and water may be procured from the main land, but not from the islands.

In coming from the west with a westerly wind, keep half a mile from the south point of Whale Island, and steer E. by N., to avoid two 4-fathom dangers; one, the Whale Patch, lying half a mile E. by S. from the centre of Whale Island, and the other two-thirds of a mile south of Beacon Island, named the Middle Patch. These may be avoided by not coming within a less depth than 10 fathoms, or by keeping southward of the track above mentioned. Keep on this bearing till Whelp Rock and House Island are in one, bearing N. by E.; then haul in upon that bearing, and proceed as before. There are several other entrances into Bonne Esperance Harbour, between the surrounding islands.

To the north of Bonne Esperance Harbour are Esquimaux Bay and Harbour. Esquimaux Island lies in the middle of the bay, and forms, with the main to the east, a very narrow channel, which runs $1\frac{1}{2}$ miles E.N.E., and then opens into a wide space with two islets in it. The mouth of the River and the trading post may be reached by keeping along the east coast. The trading post is on a sandy point, backed by spruce trees, 2 miles above Esquimaux Island. The river abounds with salmon; the approach to it from the westward is so intricate, from the number of islands, that no directions can be given.

ESQUIMAUX ISLANDS.—These islands commence at Caribou Island, and extend for 14 miles to the westward. They are generally bare of trees, and are of all sizes and heights under 200 feet. They form an endless number of channels, which it would be impossible to describe; and off them are several small rocks and shoals, some of which are fully 4 miles from the main land.

Proceeding westward from Whale Island, outside the islands, $4\frac{1}{2}$ miles W. by N., we come to the outermost of the Fort Rocks, a cluster of low rocks extending 650 fathoms to the south-west of Old Fort Island, which island is of moderate height, and $1\frac{1}{2}$ miles in diameter. The only channel through the islands, between Whale and Old Fort, is the Whale Channel, between Whale and Teat Islands.

Teat Islet, at $1\frac{1}{2}$ miles W.N.W. of the outer Fort Rock, is low, and has a ledge of water of a mile to the south-west. Midway between Fort Rocks and Mermot Island, the course in through Old Fort Channel will be N.E. $\frac{1}{2}$ N., with very deep water the whole way to Old Fort Bay, which runs toward the north-east for 4 miles, with deep water to its head.

The Dog Islands, to the westward of the Fort Rocks, are very numerous, and surrounded with innumerable rocks and shoals. There is anchorage between them and the main, which can only be got at easily by running down with a westerly wind from Shecatia, close along the main land, and in the channel between the latter and the scattered rocks and ledges which lie off it; where there is very deep water the whole way, of nearly 60 fathoms in some places.

To the northward of the Mermot Islands, and eastward of the Dog Islands, is a group of rocky islets, named the Eiders.

About $3\frac{1}{2}$ miles, W.N.W. $\frac{1}{2}$ W., from the outer Dog Rocks are two or three black rocks above water, named the Perpoises, lying three-quarters of a mile from shore. Farther on, in the same direction, at the distance of $3\frac{1}{2}$ miles, is the Boulet, a small round-backed islet, green at the top and about 70 feet high, which, together with the opening to Lobster Bay, $1\frac{1}{2}$ miles E.N.E. from it, will serve to indicate to a vessel its position off the coast. Lobster Bay is completely exposed to south-westerly winds; it is about 4 miles in depth, by about 200 fathoms in width, and has 35 fathoms at the entrance, decreasing gradually to 14 fathoms half-way up, after which there is anchorage quite to the head, with muddy bottom.

At half a mile N.W. from the Boulet is Crab Islet, and $4\frac{1}{2}$ miles W. by N. from it are the Four Rocks, having within them the Inner Islet. These are the only islets between the Boulet and Shecatia; but there are many rocks and ledges between them, and also off the Boulet, to seaward. Of these the most dangerous is the Peril Rock, which is very small, dries at half-tide, and lies $1\frac{1}{2}$ miles S.S.W. from the Boulet. It is the outermost and greatest danger off this part of the coast; the sea, however, almost always breaks over it, and also over the others which lie between it and the Four Rocks. There is no warning by the haul-lead in approaching any of these rocks, as they are all steep-to.

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About a mile to the eastward of Lobster Bay is Rocky Bay, on the eastern side of which, at a mile within the entrance, there is a small cove frequented by the fishermen, who anchor in 5 fathoms, muddy bottom, and well sheltered from all winds; here there is a house and stage. To the westward of Lobster Bay, distant $8\frac{1}{2}$ miles, and very similar to it, is a straight and narrow inlet named Narpetopee Bay, which runs up to the north-eastward, about $4\frac{1}{2}$ miles, and offers no shelter, being open to seaward.

About $8\frac{1}{2}$ miles W.N.W. from Rocky Bay is Shecatia Island, which has near it, close to the main, the island of Mistanoque, which is the bay of the same name; this bay runs inland 3 miles, and has 27 fathoms water in the centre, decreasing to 17 fathoms close to the rocks. Half a mile from the head is anchorage on muddy bottom.

Opposite the mouth of the bay, on the east side of the island, is Mistanoque Harbour, having a depth of fifteen to twenty fathoms, the bottom of mud. Vessels may anchor in less water (about 12 fathoms) to the east, between the east point of the bay and the island, but the channel is only 10 fathoms wide. Half a mile to the westward of Mistanoque is Enter Islet, and 10 fathoms farther Diver Islet, having on the southern side a reef, which runs out to the distance of 130 fathoms. These islets are low. About 400 fathoms to the N.W. of them is a group of small islands, forming with the others the western channel to the harbour, which is quite clear. There is nothing immediately outside of Shecatia, Mistanoque, Enter, or Diver Islands; so that no other instructions appear to be requisite than to run through the centre of either channel, as may be preferred.

Nearly $7\frac{1}{2}$ miles, W. $\frac{1}{2}$ S., from Mistanoque is Shag Islet, which is very remarkable, being small and high, with a round-peaked hill looking green in the middle, and is an excellent guide for making Mistanoque from the westward, as the Boulet is from the eastward. There are many rocks to the S.E. by E. of it, the outermost of which, the Shag Rock, is 2 miles distant. When three-quarters of a mile to the southward of the Shag Rock, the south point of Shecatia will bear E.N.E. 8 miles off, and this course will take you a mile to the south of the Three Rocks, lying midway between them.

The coast hence to the south-westward is broken into immense bays and inlets forming islands of moderate height, and partially covered with moss. The outer coast is lined with small islets and rocks, which are very difficult to pass through; while within them there is a great depth of water in the intricate channels and bays between the islands and the main.

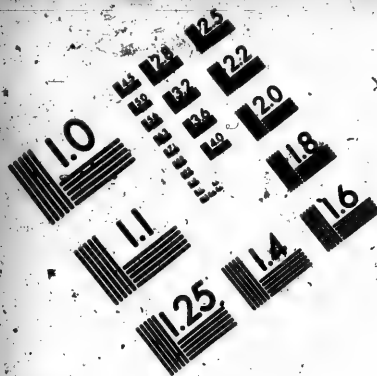
CUMBERLAND HARBOUR, formed by Cumberland Island on the east, and Duke's Island on the west, lies N. by E. $\frac{1}{2}$ E., about 3 miles, from the outer Shag Rock, and may readily be distinguished by a remarkable high hill on the main land, appearing like a castle at its summit, having steep cliffs looking like walls; this hill lies northward, nearly $\frac{3}{4}$ leagues, from the entrance to the harbour. The islands forming the harbour are moderately high, the eastern one making in two round hills. The harbour should be approached between the Shag Rock and the Three Rocks, which bear from each other E.N.E. and W.S.W., distant $2\frac{1}{2}$ miles. In sailing into this harbour there is no danger but what appears above water, excepting a small rock, which lies 8 by W. rather more than half a mile from the west point of the entrance. The entrance is about 200 fathoms wide. As soon as you arrive within its outer points, haul over to the western side, and run along it to the inner point on that side, bearing N. by W. $\frac{1}{2}$ W. about three-quarters of a mile from the outer east point of entrance. As soon as you arrive there, you may haul to the eastward, and anchor where you please, in from 7 to 20-fathoms water, over good ground. This is an excellent harbour, the best and easiest of access on this coast; and good water can be had in plenty on the east side of the harbour; but for wood you must go up to Shecatia Bay.

Shecatia Bay lies 3 or 4 miles to the north-eastward of Cumberland Harbour, and runs inland to the northward many miles. It has many islands, branches, and narrow crooked passages, too intricate for any one to attempt who is not perfectly acquainted with the navigation of the coast.

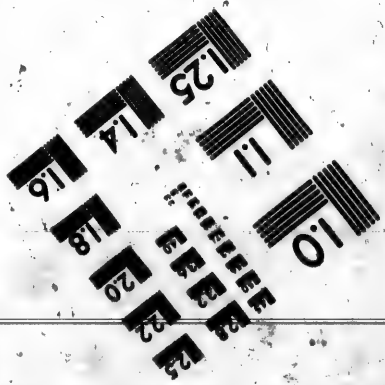
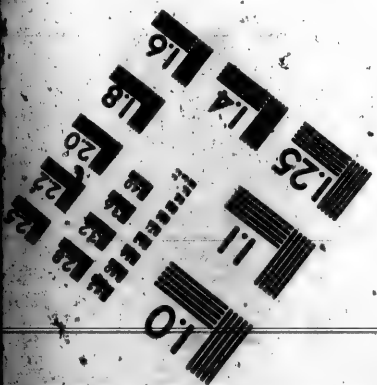
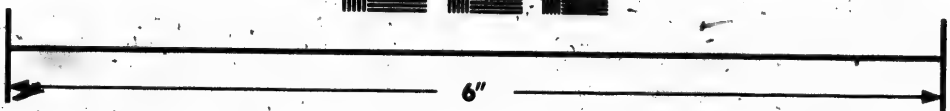
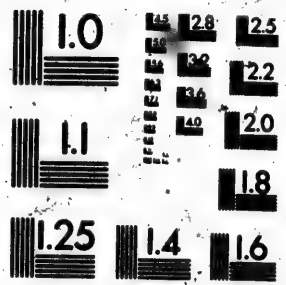
SANDY HARBOUR.—This harbour lies N.N.W. $\frac{1}{2}$ W. $2\frac{1}{2}$ miles from Shag Islet, and is situated on the south side of Sandy Island. To sail in, pass to the eastward of the Egg Rocks, which bear N.W. by W. $1\frac{1}{2}$ miles from Shag Islet, and keep the star-board point of the bay (which is the west extreme of Duke's Island, bearing N.E. more







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than half a mile from the Egg Rocks,) on board in going in. You will then see a small rock above water, to the northward, lying over towards the east side off the entrance of the harbour, and which you may pass on either side, and then steer in N.N.E. $\frac{1}{2}$ E. for the harbour, there being nothing in the way but what appears. After you have passed the entrance, which is about two cables wide, you must haul to the N.W. into the harbour, and choose your berth in 5 or 6 fathoms. This is a very safe harbour, with good ground. Here, as in Cumberland Harbour, is no wood to be had, but plenty of water. In making for this harbour, care should be taken to avoid a ledge under water, west of the Shag Rock, and about a mile south of Shag Island; and also another nearly a mile S. $\frac{1}{2}$ E. from the Egg Rocks, and W. by N. from the top of Shag Island. There is a small reef with shoal water extending $\frac{1}{2}$ of a mile from Shag Island towards this ledge, leaving a deep channel between, more than $\frac{1}{2}$ of a mile wide.

Port Augustine is a very small harbour, with a very narrow and intricate entrance, and is fit for small craft only. The approach to it is to the westward of Augustine Chain, a chain of small islets, the outermost of which is a round smooth rock, with a high black rock half a mile to the westward of it. Between these last-named rocks there is a ledge, which shows at one-third ebb. The passage is on either side of this ledge, and then northward along the west side of Augustine Chain.

The south extremity of Augustine Chain bears W. $\frac{1}{2}$ S. about 7 miles from Shag Islet. Between them lies Square Channel, the largest in between the islands, towards the main land. It is too intricate for description; at 14 or 15 miles up it, in a N.W. $\frac{1}{2}$ N. direction, is the entrance of the River Augustine with a sand bar across it, dry at low water. There is plenty of wood at this river.

Eagle Harbour, on Long Island, is unfit for anything but small vessels, the entrances being narrow and intricate. This part of the coast is very dangerous on account of the numerous islets and rocks off it.

Off the entrance of Fish Harbour, N. $\frac{1}{2}$ W. $\frac{1}{2}$ miles from the Bottle on the north of Great Mecattina Island, is Wood Island, so called from its being covered with wood. The entrances to Fish Harbour are on either side of Wood Island, the northern being the best; there is a ledge to the south of the island, which always shows, and a rock with only 2 feet water upon it, one-third of a mile S.S.E. $\frac{1}{2}$ E. from the east point of the island. Wood and water may be obtained, and there is a trading establishment here.

HA-HA BAY.—This bay lies in the main, to the westward of Long Island, and has several small islands at its entrance, forming separate entrances. The best of these is, that which lies between Seal Point and Round Island, and leaves all the islands on the starboard side; this being a wide and safe passage, having no danger but what is visible. Ha-Ha Bay runs in to the N.E. by N. 8 miles, and has a depth, in one part, exceeding 60 fathoms; in it there are many islands at its head, on the starboard side. Within these islands, to the eastward, are numerous anchorages, with from 9 to 30 fathoms water. Vessels may occasionally anchor anywhere along the eastern side of the bay, in 12 and 14 fathoms, muddy bottom; but on the western side the water is too deep. N.N.E., about 3 miles from the entrance on the west side, is a high bluff head. Round this head, N.W. by W. half a mile, is a small but safe harbour for small vessels, in which you will have 12 fathoms, good ground. This harbour is formed by an island, on either side of which there is a narrow but safe passage.

GREAT MECATTINA ISLAND, to the southward of Ha-Ha Bay, is 3 miles S.E. from Red Point, the nearest part of the main. It is $3\frac{1}{2}$ miles long, north and south, 3 miles wide, and about 500 feet high in the centre. It is composed of granite, and the position of the island, with relation to the high land inside of Cape Mecattina, 4 or 5 miles W.N.W., distinguishes it from any other island in the Gulf.

Nearly joined to its north point is the Bottle, a high round islet, with a small rock close off it, to the N.W. by N.; and half a mile in the same direction, is a rocky shoal of 4 fathoms. Bluff Head is the high N.E. point of the island; and between it and the Bottle is a cove, one mile deep, named Island Harbour, sheltered from the east by a cluster of small islets and rocks, having a passage on either side of them. The anchorage is near the head of the cove, in from 14 to 20 fathoms, good ground; here both wood and water may be obtained. If you enter by the south passage, keep Bluff Head on board; and if by the north, pass between the cluster just mentioned

and a small isolated rock about a $\frac{1}{2}$ of a mile N.W. of it, and a cable's length from the shore of Great Mecattina.

Treble Hill Island lies E. by S. about 3 miles from the centre of the island of Great Mecattina, Flat Island; S.S.E. $\frac{1}{2}$ E. 3 miles from its south point, and the Murr Islets S.W. about 4 miles from the same point. To the N.E. by E. from the easternmost of the Murr Islands there is a ledge, on which the sea generally breaks. All these islands are quite bold-to, and swarm with sea-fowl. The Murr Islets are of considerable height, and flat at top; about $\frac{1}{4}$ a mile to the S.E. of the southernmost of them are two small and low rocks above water.

MECATTINA HARBOUR, behind Mecattina Island in the main, is safe but small, yet will admit vessels of burthen, there being not less than 8 fathoms at low water in either passage to it; but they must moor head and stern, there being no room to moor otherwise. This harbour lies $8\frac{1}{2}$ miles N.W. by W. $\frac{1}{2}$ W. from Round Head, a high peninsula on the west side of Great Mecattina Island, and $5\frac{1}{2}$ miles N. by W. $\frac{1}{2}$ W. from the Murr Islets. It is only 38 fathoms wide in the western entrance, and 60 or 70 fathoms wide within. It may be safely taken by small vessels in fine weather, but not in stormy weather, the entrance being so narrow; the least neglect in steering might place the vessel on shore. To sail in through the western passage there is no danger, but to sail in through the eastern channel you must observe the following directions:—From the eastern point of Mecattina Island steer N. by W. towards the main land, keep that close on board, until you get the N.W. point of the island at the western entrance on with the south point of Dead Cove; this is a small cove on the main, which lies open to the eastward; the land which forms it is very low, with some brushwood upon it. Sail on, in that direction, until you get above a stony point, which is the north side of the said cove; or until you bring the north point of Gull Island, which is a small island lying E. by N., distant a mile from Mecattina Island, on with the E.N.E. point of Mecattina Island, you will then be within a spit of rocks which stretches off the island, and must haul over for Mecattina Island, in order to avoid a ledge running off from the south point of Dead Cove; and when you open the western passage, you may anchor in 6 or 7 fathoms water.

Vessels coming from the eastward, and bound for the harbour of Mecattina, in passing between Gull Island and the main, should be careful either to keep Gull Island or the mainland close on board, in order to avoid a sunken rock that lies nearly half-way between them, on one part of which there are not above 3 feet water. The highest part of the land between Grand Point and Ha-Ha Bay is directly over the harbour of Mecattina.

CAPE MECATTINA, or GRAND POINT, is the extremity of a promontory, running out from the main land; it is low at the point, but rises, inland, gradually, until it becomes of considerable height; it may easily be recognized by the adjacent islands and rocks, the nearest of which is a small low rock not far from the point. Two of these islands are much larger, and rise much higher than the others, and are named the Dyke Islands; the outermost are small, low, rocky islands, lying $4\frac{1}{2}$ miles off the point; they all lie in a S.S.E. $\frac{1}{2}$ E. direction from the point. Vessels bound to Mecattina Harbour from the westward either pass through the clear and deep channel between the Northern Murr Islet and the Outer Rocks, or between the islands, for there is a safe passage on either side of Entrance Island, the second from the point; the best channel however among these islands, is between Entrance and Dyke Islands. The cape is situated in lat. $50^{\circ} 10' N.$, and long. $50^{\circ} 2' 30'' W.$

Portage Bay, to the westward of Mecattina Harbour, is 3 miles N. by E. from the south point of Cape Mecattina. It runs in about $1\frac{1}{2}$ miles to the northward, and affords some shelter. A small islet lies in the mouth of the bay, towards the east side, which forms a small harbour, the western entrance to which is the best. In the approach to this harbour there are two 15-foot ledges to be avoided, one 400 fathoms S. $\frac{1}{2}$ W. from the west end of Mutton Island, and the other half a mile N.E. by E. from the southern Seal Rock, which is three-quarters of a mile N.E. by N. from the south point of Cape Mecattina.

The Great Island of Mecattina being the most remarkable land about this part, vessels frequently make it their point of departure, and shape their courses from it to other places. When without the Murr Rocks a W. by S. course, 55 miles, will take you without the rocks to off Cape Whittle; though by this course you will pass very near to St. Mary's Reef. From the Murr Islands to Wood Island, near Grand

FROM YORK POINT TO CAPE WHITTLE.

Point, at the entrance of the Strait of Belle Isle, the course is E. $\frac{1}{2}$ N., 75 miles; continuing on, the east course 60 miles farther brings you to the eastern entrance of the strait.

LITTLE MECATTINA ISLAND is $7\frac{1}{2}$ miles long, in a N.N.E. direction, and 3 miles wide. It lies W.S.W. $\frac{1}{2}$ W., 15 miles, from Cape Mecattina; between them is a large bay, studded with numerous islands and rocks, which should have a good berth given to them. Salaberry Bay, on the west side of this island, cuts it nearly in two. The northern part of the island is low land, joined to the southern part by a very narrow isthmus; while the southern part is high, the highest point being about 560 feet above the level of the sea. Little Mecattina River is large and falls 30 feet over granite, a short distance within the entrance, and about $2\frac{1}{2}$ miles N.N.W. from the north end of the island.

Little Mecattina Island, having no channel between it and the main for vessels, and scarcely even for boats at low water, may be considered as forming the west side of a large bay. The promontory of Mecattina forms the east side of this bay, which, as already mentioned, is filled with islands and rocks innumerable, among which no vessel could find her way, and where it is possible to lose oneself for a time in a boat.

Hare Harbour, on the east side of Little Mecattina Island, has depth and room enough for the largest ships, but has several rocks and ledges in it, which render it difficult to strangers. As it opens to the southward, the prevailing westerly or easterly winds are favourable for sailing in, and are generally accompanied with a smooth sea in the entrance. It is only when the wind is well to the southward that there is any swell, and even then it never rolls into the harbour so as to affect a vessel.

In order to enter this harbour with an easterly wind, you ought to pass to the southward of the Fin, Scale, and Single Rocks, at the distance of about half a mile. The Single Rock is just awash, and has three sunken rocks near it, and should not be approached nearer than a quarter of a mile, as the sunken rocks are 150 fathoms from it. There is nothing in the way to the westward of the line from Single Rock to the Eden Islands, excepting the Cat Rocks, above water, and Staff Islet and its ledges. When abreast of the Single Rock, haul round to the north-westward by degrees, and when you are half a mile to the westward of the rock, the entrance of the harbour will bear N.N.W., with nothing in your way, and you may steer directly for it.

In coming with a westerly wind, steer N.N.E. $\frac{1}{2}$ E., passing Point A, the eastern point of Little Mecattina Island, at the distance of one-third of a mile; continue on N.N.E. $\frac{1}{2}$ E., leaving the Cat Rocks and Staff Islet and Ledges on your port hand, coming no nearer the latter than a quarter of a mile; and, when abreast, you will see the entrance of the harbour bearing N. $\frac{1}{2}$ W., distant a mile. You cannot mistake it, because there is no other channel through which you can see clear into the harbour from that position. The entrance, 170 fathoms wide and 20 fathoms deep, is between Daly and Price Islands; or, from the former position abreast of Staff Islet, continue on N.N.E. $\frac{1}{2}$ E., 300 fathoms farther, till the entrance bears N.N.W., then haul directly in for it, leaving Eden Islands and Price Island on your right hand, and giving the S.W. extreme of the latter a berth of not less than 30 fathoms. Daly Island on your left, or to the westward, is quite bold.

About 170 fathoms, within the entrance on the east, or Price Island side, you will see the small Watch Rock above water, and farther in a very small islet, named Bold Islet, which lies about one-third of a mile within the entrance and 80 fathoms W.N.W. from the inner end of Price Island, and is quite bold. On the west side, bearing N. $\frac{1}{2}$ W. 200 fathoms from the east extreme of Daly Island, lies Safe Rock, very small and above water, and is quite safe on its east side; and nearly mid-way between Safe Rock and Bold Islet lies Rag Ledge, which just dries at low water. This is the principal danger in the way, but it can almost always be seen from aloft, and there is a clear channel on either side of it, a long cable wide, with a depth of from 12 to 15 fathoms. The western channel, however, is the better; and the course from the centre of the entrance to it, so as to pass within half a cable of the Safe Rock, is N. $\frac{1}{2}$ W., one-third of a mile. When within these dangers, you must choose your anchorage by the lead, for there are several patches of rock with from 4 to 6 fathoms, although the bottom is in general of mud, with from 9 to 14 fathoms water. In doing this,

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however, there is one more danger to be avoided, namely, the Foul Rock, a 2-fathom patch bearing exactly north 600 fathoms from the S.W. point of Price Island. Until within this rock, therefore, you should keep more than half-way over from the islands forming the east side of the harbour, towards its western shore. You may, if you choose, run in nearly half a mile farther than this patch, and anchor to the eastward of Cluster Point, which consists of some low small islets and rocks extending off the Little Mecattina shore; this position is considered the safest in the harbour.

The south shore of Little Mecattina Island, as far as Cape Mackinnon, is high and bold, with remarkable beaches of white boulder stones occasionally. About $1\frac{1}{2}$ miles W.N.W. $\frac{1}{2}$ W. from the cape is a dangerous reef, awash at low water, named the Spray Reef, which is bold-to all round, and should always be passed to the westward when entering Aymer Sound.

Aymer Sound, to the westward of Little Mecattina Island, affords no anchorage until beyond the Doyle Islands at its head, behind which is Lou Road and Louisa Harbour; in the latter vessels can ride in 4 fathoms, in the southern part of the harbour, but will be exposed to the W.S.W., although protected in a great measure by the Doyle Islands. To sail into this harbour or into Lou Road, keep the eastern side of the Doyle Islands aboard, by which you will clear some ledges lying in the entrance of Salaberry Bay to the N.E.

The western side of Aymer Sound is formed by a cluster of high islands named the Harrington Islands, the extremity of the outermost of which is named Cape Airy. There is no passage between these islands on account of the multitude of rocks. Off Cape Airy at the distance of 2 miles, S. by W. $\frac{1}{2}$ W., is the Black Reef, composed of low black rocks above water, and W. by N. $1\frac{1}{2}$ miles from the cape is Major Reef, awash at low water, and 8 miles farther are the Netagamu Islands, within which and the Harrington Islands, the mainland bends inwards and forms a bay, having a quantity of rocky islets at the entrance. On the largest of the Netagamu Islands is a remarkable mound.

About $1\frac{1}{2}$ miles N. by W., from the Netagamu Islands is the river of the same name, which may be known by a sandy beach, backed with a thick growth of fir trees, on either side of the entrance, which entrance, though narrow, has deep water close up to the falls, a distance of $1\frac{1}{2}$ miles; these falls are 50 feet high. A bar of sand, with 3 feet over it, extends a mile from the entrance, and is extremely dangerous to boats because of the heavy surf. The current of the river is rapid.

Ten miles, W.S.W., from Cape Airy are the St. Mary Islands, estimated to be 200 feet high; they are composed of bare steep granite, and bold all round. To the westward of them are the clusters of the Cliff and Boat Islands, separated by a channel half a mile wide, with 17 to 30 fathoms in it.

To the northward of these clusters of islands is Watagheistic Island, 3 miles long and above $1\frac{1}{2}$ miles broad, lying at the entrance of a large bay, within which is a large sound containing several good anchoring places, but unapproachable without passing through 7 miles of dangerous navigation. To the north of the St. Mary Islands are several islets, rocks, and reefs, the largest of which islets is Cove Island, bearing 4 miles N.N.W. from the north point; there are thickly scattered rocks both above and below water, between it and the Netagamu Islands. The eastern entrance, between Watagheistic Island and the main, is narrow and intricate, but the western entrance is half a mile wide; and though there are several rocks and ledges in it, yet it can be safely sailed through with proper care; but there is no good anchorage on the route to, or outside either entrance to Watagheistic.

St. Mary Reefs are four very dangerous ledges, just under water, extending a mile, N. and S.; the southernmost bearing S.W. $\frac{1}{2}$ S., $3\frac{1}{2}$ miles, from the S.W. extreme of the Boat Islands; W.S.W. $\frac{1}{2}$ W., 6 miles, from the S.W. extreme of the St. Mary Islands, and S.E. $\frac{1}{2}$ S., $3\frac{1}{2}$ miles, from the westernmost of Southwest Islands. The Tender Rock, small and awash, lies N. by W. $\frac{1}{2}$ W. a mile from the northernmost St. Mary Rock, and 2 miles S. $\frac{1}{2}$ W. from the westernmost of the Middle Islands, which lie within the Boat Islands, between them and Watagheistic.

Between the Middle Islands and Wapitagan, the coast is broken into coves, and lined with innumerable islets and rocks, among which nothing but a very small vessel, perfectly acquainted with the coast, could find her way. There is nothing worth noting except the Etamamu River, which enters the sea at 4 miles N.E. from Wapitagan: it is rapid, and there is a trading and salmon-fishing post at its mouth.

Mistassini Stone, situated upon the S.E. extreme of the outer Wapitagan Islands, is a remarkable block of granite resembling a mortar, and hence sometimes named the Gun by the fishers. It is an excellent guide to the eastern entrance to Wapitagan, from which it is distant three-quarters of a mile to the westward.

Southmakers Ledge lies S. $\frac{1}{2}$ W. $3\frac{1}{2}$ miles from the Mistassini Rock; West 9 miles from St. Mary Rocks; and $6\frac{1}{2}$ miles S.E. $\frac{1}{2}$ E. from Cape Whittle. The course from this dangerous reef to Greenly Island, near the entrance of the Strait of Belle Isle, is E. $\frac{1}{2}$ N., distance 128 miles. It is a small rock, which is never entirely covered in moderate weather; the extent of the reef around it is 130 fathoms E. and W. and 50 fathoms N. and S., and there is no danger near it. The soundings are very irregular round it.

WAPITAGUN HARBOUR is a long narrow channel between the outer islands of Wapitagan, which are of bare granite, and appear as but one island, and Wapitagan Island to the northward of them, and is completely sheltered; the western entrance to the harbour is sharp round the western extremity of the outer Wapitagan Islands, which lies E. $\frac{1}{2}$ S. from Cormorant Point, 600 fathoms off. This entrance is about 80 fathoms wide, and the harbour itself is narrow and unsuitable for vessels above 150 or 200 tons.

To enter from the southward with an easterly wind, steer for the eastern entrance, which has been indicated, and you will meet with nothing in the way. On the west side of the entrance there is a rock and ledge which shows, and therefore you must keep on the east side, steering N.W. by N.; one-third of a mile within the entrance there are three small islets, and to the northward a cove, in Wapitagan Island, running in to the westward, round a steep rocky point, which has a sunken rock close off it to the S.E. Leave all three islets to the left, passing close to them, and bear up to the westward between them and the steep rocky point; this is the safest passage, but a good look-out ought to be kept.

To enter the harbour with a westerly wind, run down between the Southmakers Ledge and the Cormorant Rocks, which lie to the south of Lake Island, bearing to the north to pass the S.E. Cormorant Rock, at the distance of half a mile. This rock will be readily known from the Nest Rock, covered with birds and whitened by them, and 120 fathoms to the west of it; 400 fathoms to the N.E. of the S.E. Cormorant, is a two-fathom ledge, which must be left on the left. Then haul to westward a little, so as to leave the Slime' Rock or N.E. Cormorant, not less than 300 fathoms on your left, to avoid another two-fathom ledge, bearing N.E. $\frac{1}{2}$ N. one-quarter of a mile from that rock. Passing close to the east of this, steer for the islet in the channel, which you will see between the west extreme of the outer Wapitagan Islands and Cormorant Point; but to pass to the eastward of Long Ledge, lying midway between Slime Rock and Cormorant Point, the course must not be above N.N.W. $\frac{1}{2}$ W., or the west end of the before-mentioned islet, on with the high point, which is the east end of Lake Island, lying northward of the islet. When within 2 cables' length of the islet, the harbour will begin to open to the eastward, when you must bear up quickly for it, leaving the islet to the northward, keeping 200 fathoms off the west point of the outer Wapitagens, to clear a ledge lying off it, and when it bears to the eastward of north, proceed into the harbour and anchor where you please. The best berth is in a small bay on the south side of the harbour, 600 fathoms within the western entrance, in 7 fathoms.

CAPE WHITTLE, the south-west point of Lake Island, has many dangers off it to the southward and westward, the two outermost of which, named the Whittle Rocks, are half-tide rocks. All these rocks are steep, with from 20 to 40 fathoms water between them. The cape is considered to be in lat. $54^{\circ} 10' 44''$ N., and long. $60^{\circ} 9' 46''$ W., and from it the coast of Labrador changes its south-westerly direction, which it had hitherto maintained, to west. Wood can be obtained on Lake Island, but for water it is necessary to visit the main-land.

The flood from the eastward and ebb from the westward usually run past the entrance of Wapitagan, at a rate varying from a half to a mile; but both streams are much influenced by the winds.

PART III.

THE GULF OF ST. LAWRENCE.

GENERAL REMARKS.

It has always been supposed that the navigation of the Gulf and River St. Lawrence is attended with considerable difficulty, and the numerous accidents constantly occurring to vessels would seem to show that the opinion is well founded.

Captain Bayfield, R.N., has remarked that, "Among the difficulties of the navigation, may be mentioned the ice. In spring the entrance and the eastern parts of the gulf are frequently covered with it, and vessels are sometimes beset for many days. Being unfitted for contending with the danger, they often suffer from it, and are occasionally lost; but serious accidents from this cause do not frequently occur, because the ice is generally in a melting state from the powerful effect of the sun in spring. In the fall of the year accidents from ice seldom occur, except when the winter commences suddenly; or when vessels linger imprudently late from the temptation of obtaining high freights.

But all danger from ice is far less than that which arises from the prevalent fogs: they may occur at any time during the open or navigable season, but are most frequent in the early part of summer; they are rare, and never of long continuance during westerly winds, but seldom fail to accompany an easterly wind of any strength or duration. The above general observation is subject, however, to restriction, according to locality, or season. Thus winds between the south and west, which are usually clear weather winds above Anticosti, are frequently accompanied with fog in the eastern parts of the gulf. Winds between the south and east are almost always accompanied with rain and fog in every part. E.N.E. winds above Point de Monts, are often E.S.E. or S.E. winds in the gulf, changed in direction by the high lands of the south coast, and have therefore in general the same foggy character. I speak of winds of considerable strength and duration, and which probably extend over great distances. Moderate and partial fine weather winds may occur without fog at any season, and in any locality. In the early part of the navigable season, especially in the months of April and May, clear weather N.E. winds are of frequent occurrence, and they also sometimes occur at other seasons, in every part of the Gulf and River St. Lawrence.

The fogs sometimes last several days in succession, and to a vessel either running up or beating down, during their continuance, there is no safe guide but the constant use of the deep-sea lead, with a chart containing correct soundings.

The fogs, which accompany easterly gales, extend higher up into the atmosphere, and cannot be looked over from any part of the rigging of a ship. They, however, are not so thick as those which occur in calms after a strong wind, and which are frequently so dense as to conceal a vessel within hail; whilst the former often, but not always, admit the land, or other objects, to be distinguished at the distance of half a mile, or more, in the daytime.

The dense fogs, which occur in calms, or even in very light winds, often extend only to small elevations above the sea; so that it sometimes happens, that when objects are hidden at the distance of fifty yards from the deck, they can be plainly seen by a person fifty or sixty feet up the rigging. In the months of October and November the fogs and rain, that accompany easterly gales, are replaced by thick snow, which causes equal embarrassment to the navigator.

The prevailing winds, during the navigable season, are either directly up or directly down the estuary, following the course of the chains of high lands on either side of the great valley of the St. Lawrence. Thus a S.E. wind in the gulf becomes E.S.E. between Anticosti and the south coast, E.N.E. above Point de Monts, and N.E. above Green Island. The westerly winds do not appear to be so much guided in direction by the high lands, excepting along the south coast, where we have observed a W.S.W. wind at the island of Bic becoming west, W.N.W., and N.W., as we ran down along the high and curved coast, until it became a N.N.W. wind at Cape

Gaspé. These winds frequently blow strong for three or four days in succession; the westerly winds being almost always accompanied with fine, dry, clear, and sunny weather; the easterly winds as frequently the contrary, cold, wet, and foggy. In the spring, the easterly winds most prevail, frequently blowing for several weeks in succession. As the summer advances, the westerly winds become more frequent, and the S.W. wind may be said to be the prevailing wind in summer in all parts of the river and gulf. Light south winds take place occasionally; but north winds are not common in summer, although they sometimes occur. Steady N.W. winds do not blow frequently before September, excepting for a few hours at a time, when they generally succeed easterly winds which have died away to a calm, forming the commencement of strong winds, and usually veering to the S.W. The N.W. wind is dry, with bright clear sky, flying clouds, and showers. After the autumnal equinox, winds to the northward of west become more common, and are then often strong steady winds of considerable duration. In the months of October and November the N.W. wind frequently blows with great violence in heavy squalls, with passing showers of hail and snow, and attended with sharp frost.

Thunder storms are not uncommon in July and August; they seldom last above an hour or two; but the wind proceeding from them is in general violent and sudden, particularly when near the mountainous part of the coast; sail should, therefore, be fully and quickly reduced on their approach.

Strong winds seldom veer quickly from one quarter of the compass to another directly or nearly contrary: in general they die away by degrees to a calm, and are succeeded by a wind in the opposite direction. I do not mean, however, by this observation, that they may not veer to the amount of several points. N.W. winds seldom or never veer round by north and N.E. to east and S.E.; but they do frequently, by degrees, to the S.W., after becoming moderate. S.W. winds seldom veer by the N.W. and north to the eastward, but sometimes by the S. to S.E. and E. Easterly winds generally decrease to a calm, and are succeeded by wind from the opposite direction.

In the fine weather westerly winds of summer, a fresh topgallant breeze will often decrease to a light breeze or calm at night, and spring up again from the same quarter on the following morning: under these circumstances only may a land breeze off the north coast be looked for. I have observed the same off the south coast also, but not so decidedly or extending so far off shore. I have occasionally carried the north land wind nearly over to the south coast just before daylight, but have never observed the south land wind extend more than five or six miles off, and that very rarely. Under the same circumstances, that is, with a fine weather westerly wind going down with the sun, a S.W. land breeze will frequently be found blowing off the north coast of Anticosti at night and during the early part of the morning. However, the weather be not settled fair, and the wind does not fall with the sun, it will usually prove worse than useless to run a vessel close in shore at night in the hope of a breeze off the land. Such is the usual course of the winds in common seasons, in which a very heavy gale of wind will probably not be experienced from May to October, although close-reefed topsail breezes are usually common enough. Occasionally, however, there are years, the character of which is decidedly stormy. Gales of winds, of considerable strength, then follow each other in quick succession and from opposite quarters.

The marine barometer, which is at all times of great use to the navigator, becomes particularly so in such seasons; and the following remarks upon its general indications, when taken in connexion with the usual course of the winds and weather in the St. Lawrence, may therefore be useful. The barometer has a range from 29 to 30.5 inches in the Gulf and River St. Lawrence during the navigable season, and its changes accompany those of the winds and weather with a considerable degree of constancy. The fluctuations of the barometric column are much greater and more frequent there than in lower latitudes; and sudden alterations, which in other climates would be alarming, may occur there without being followed by any corresponding change either in the wind or the weather. But the navigator should not be inattentive to those minor changes, as a constant attention to the instrument can alone enable him to appreciate those decisive indications of the mercury which seldom or never prove deceptive. The following remarks will apply to those well-marked changes which usually indicate the approach of a gale of considerable strength, or of a shift

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of wind and weather; the correct anticipation of which is often of the utmost importance to the safety of a vessel, as well as to the length of her voyage. When after a continuance of westerly winds and fine weather, the barometer has risen nearly to its greatest height, say some tenths above thirty inches, or begins to fall a little, an easterly wind may be soon expected. If to this notice given by the barometer be added a warm hazy atmosphere during the day, and a heavy precipitation of dew at night, with very bright twinkling stars, or a coloured aurora borealis, the approach of an east wind is almost certain. If land be in sight at such a time, and appears much distorted by terrestrial refraction, or if vessels in sight have the relative proportions of their hulls and sails changed by the *mirage*, or present double or treble images, such appearances will render the more probable indications of the barometer certain. At the commencement the easterly wind will probably be light with fine clear weather, but this will not last above a few hours if the barometer continues to fall; on the contrary, the wind will gradually increase, and as it does so the sky will be overcast by degrees until it is completely clouded. Both rain and fog will follow, and continue during the continuance of the easterly wind, with little intermission, until they are dissipated by a fresh breeze from the contrary quarter.

If the fall of the barometer, during the continuance of the easterly wind, be very slow, the gale will probably continue, and not be very violent: if rapid, it will probably be of short duration, and of greater strength: at any rate, when the mercury falls towards 29 inches, a change is certainly at hand, and the gale will in general come from the N.W. The strength of this succeeding gale will be in proportion to the fall of the barometer, and to the strength of the easterly gale which preceded it. In such a case, there is seldom many hours' interval between the one gale and the other. The east wind generally dies away to a calm, and in a very few hours, or sometimes in much less time, the N.W. gale springs up. A heavy cross sea remains for some time from the previous gale. The barometer sometimes begins to rise in the interval of calm which precedes the N.W. gale, at others at its commencement: the fog and rain cease, and the weather becomes quite clear, generally in a few hours, and sometimes almost immediately. The strength of the westerly gale is usually greatest soon after its commencement, and diminishes as the barometer rises, veering gradually to the west and S.W. It is worthy of remark, that the circumstances just mentioned are exactly the reverse of those attending the easterly gale. The gale usually commences with clear weather and a high barometer, light at first from the south or S.E. and gradually increasing as it veers to the eastward, with a falling barometer. To return to the westerly gale. If, after it has veered to S.W. and become moderate, the barometer remains steady at a moderate height, fine weather may be expected. If it limits, variable but not heavy winds, and variable weather, may be expected. If on the contrary, it rises quickly to a great height, a repetition of the easterly gale will not be improbable. We have experienced seasons in which the barometer may be said to have been no sooner blown up by one wind, than it has been blown down by another, and this stormy alternation to have continued for several months, whilst in others we have scarcely had a double-reefed topsail breeze during the whole summer.

There is in fact so great a difference in the phenomena of the weather in different seasons, that it becomes very difficult to write anything respecting it that shall not be liable to many exceptions. There are, however, some strongly marked cases of connexion between the indications of the barometer and changes of the winds and weather, which, within our own experience of eight or nine years, have been subject to few, I might almost say no exceptions. The first of these cases is that most common one, which I have endeavoured to describe, of an easterly gale, with a falling barometer, being always wet and foggy, and succeeded by a strong wind from the opposite quarter with a rising barometer. A second case, not so frequent occurrence in common seasons, excepting in spring or early in summer, is the easterly wind with a rising barometer; which, although it may not be at first for a few hours, will almost always become fine and clear, and end in fine weather. A third case may be considered certain: if the barometer fall suddenly and greatly, at any time, a northerly, and most probably a N.W. gale, of great strength, may be confidently expected. It does not follow that it will be immediate, for it may be preceded by a strong gale from S.W., for a few hours, during which the barometer will seldom rise,

and even, probably, continue to fall; but when the S.W. gale dies away, the northerly or N.W. will soon succeed, with a rising barometer.

In conclusion, I may remark that as, on the one hand, a considerable fall of the barometer may occur, without being followed by a strong wind; so, on the other, a breeze of considerable strength may come on without any indication from the barometer, but not anything that deserves the name of a gale. There has never, within our experience, occurred a gale, so heavy as to be of serious consequence to a good vessel, the approach of which has not been indicated by the barometer. But it must be remembered that a high barometer, in this climate, and under the circumstances which I have mentioned, is often indicative of an easterly gale. It is remarkable that, in the gulf and estuary of the St. Lawrence, a high barometer may be considered as the forerunner of wet and foggy weather, which usually accompanies its fall; whilst a low barometer renders it equally probable that dry weather will ensue, since it often accompanies its rise. I am fully of opinion, that the marine barometer is, of the greatest assistance in the navigation of the Gulf and River St. Lawrence, and that by attending constantly to its state and changes, with reference to the winds and weather which preceded them, combined with the indications afforded by the appearance of the sky, &c., those changes of the wind and weather, which are about to take place, may be anticipated with a degree of certainty sufficient, in most cases, to enable us to avoid being caught on a lee-shore, or in an unsafe anchorage, as well as to regulate our course in a voyage, in anticipation of the coming change.

An opinion is prevalent that the compasses of vessels are disturbed in the Gulf and River St. Lawrence, and such disturbance has been attributed to the magnetic ores of iron in the hills, particularly those of the north coast. The magnetic oxide of iron does exist abundantly, and attracts the needle very powerfully at some points, particularly along the coast from the Bay of Seven Islands eastward. Among the Mingan Islands, we found the variation to vary from this cause from 19° to 81° W. At Port Neuf, and on Manicouagon Point, the needle was also disturbed. But these effects were only noticed when the instrument was placed on the shore. In two instances only, when sailing within two miles of the shore, have we observed any effect of the kind upon the compasses on board the *Gulniare* (the vessel in which the survey was made), and then only to the amount of a few degrees.

When running from place to place, at greater distances from the coast, nothing of the kind has been noticed; so that I feel sure, that in nine cases out of ten where this source of erroneous reckoning has been alleged as the cause of accidents to vessels, they originated either in errors of the chart, or in the local attraction on board the vessels themselves."

CURRENTS, &c.—Capt. Bayfield, R.N., says—"It is a generally received opinion, that a current sets constantly to the south-eastward out of the Gulf of St. Lawrence, between Newfoundland and Cape Breton Island, and also that it is frequently deflected to the southward, towards the shores of the island last named, by another current from the northward, which is said to enter the Gulf by the Strait of Belle Isle.

I have myself observed that a current sets out, between Cape Ray and St. Paul Island, during westerly winds and in calm weather; but it is checked by easterly winds, and I believe that it may sometimes run in a contrary direction from the same cause. Northerly winds, and perhaps also the above-named current from the northward, may cause the stream to set to the southward towards Cape Breton Island. But the truth is that winds, both present and at a distance, possess so powerful and irregular an action upon the set and strength of the currents and tides in this entrance of the Gulf, that I can say nothing certain or definite respecting them.

The reality of a current inwards through the Strait of Belle Isle is confirmed by the presence of icebergs, which it transports into the Gulf every summer, against the prevailing S.W. winds; frequently carrying them as far as Mecatina, and sometimes even to the neighbourhood of the east point of Anticosti. Its strength is very much increased by a prevalence of N.E. winds: at such times it runs at the rate of 2 knots, through the Strait, and for 30 to 40 miles further to the westward; diminishing gradually in force as it spreads out in the wider parts of the Gulf. Usually, however, its rate is much less. At times, when S.W. winds prevail, it becomes very weak; and it has even been reported to me, that a current has been observed setting out of the Gulf, in a contrary direction to the N.E., for days together, but this was never observed by us during either of the three seasons which we passed there. There is, however,

no doubt that this current is extremely irregular, as might be expected at the narrow outlet of a great inland sea, where winds, both within and without, must of necessity possess great influence.

After entering the Gulf, it runs along the north or Labrador Coast, at the distance of 2 or 3 miles from the outer islands; leaving a narrow space in-shore, in which the streams of the tides, when uninfluenced by winds, are tolerably regular. Passing outside of Mistanoque, the islands of Grand Macatina, and the Southmakers Ledge, it pursues a direction given to it by the trending of the coast, till it is turned gradually to the southward, by the weak current which is often found coming from the westward between Anticosti and the north coast, during westerly winds, and which is set off to the southward from Natashquan Point. The united streams continue their southern course at a rate diminishing as they become more widely spread, and which seldom exceeds half a knot; and, finally, joining the main downward current out of the St. Lawrence, of which an account will be given immediately, they all pursue a S.E. direction towards the main entrance of the Gulf, between Cape Ray and the Island of St. Paul. It is this current, from the northward, which is felt by vessels crossing from off the Bird Rocks towards Anticosti; and which, together with neglecting to allow for the local attraction of the compass, has been the principal cause of masters of vessels so often finding themselves, unexpectedly, on the south coast. Many shipwrecks have arisen from this cause near Cape Rosier, Gaspé, Mal Bay, &c.

Effect of the Tides on this Current.—Both these currents, viz., that from the northward, and the main downward current of the St. Lawrence, are modified by the tides, but in a way directly contrary: for the northern current, in through the Strait of Belle Isle, is accelerated by the flood, and checked by the ebb; whilst the other is accelerated by the ebb, and checked by the flood tide. These modifying causes, viz., the tides and winds, give rise to various combinations, and consequent irregularities, in the direction and strength of these streams, which it is extremely difficult at all times to estimate and allow for correctly.

Main Current of the River.—The current along the south coast appears to be superficial—at least we found it so in the lower parts of the Estuary, where observations upon the specific gravity of the water on the surface, and taken up from different depths, proved to us that the water of the St. Lawrence and its numerous tributary streams was widely diffused over the Estuary. It has also been observed that the current is strongest in spring, soon after the opening of the navigation, when the rivers are swelled by the recently dissolved snows of the winter. But, although, generally speaking, there seems no doubt that this current is the tribute of the St. Lawrence on its way to the ocean; yet, in the upper part of the Estuary it is not alone, and at all times, caused by the discharge of the St. Lawrence, but depends also upon peculiarities in the set of the tides. Thus, when our observations had confirmed the truth of the report, that the current always ran down on the south side of the Estuary from a few miles below Red Island towards the Island of Bic, we could not at first account for the fact; for it appeared impossible that this could be the comparatively fresh water of the St. Lawrence flowing on the surface towards the sea, when we knew that the whole body of water a few miles above, from shore to shore, on either side of Hare Island, and also in the Saguenay River, was running up during the flood tide. Attention, and numerous observations, together with an examination of the temperature and specific gravity of the water, informed us that this was an eddy flood, which is thus explained.

The flood tide ascends in a wide channel more than 100 fathoms deep: when it arrives at the comparatively narrow pass formed by Green Island, Red Inlet Reef, and the extensive shoals off the entrance of the Saguenay River, it is obstructed thereby, as well as by the shoalness of the channel to the southward of Hare Island. There is not room for so great a volume of water to pass, and part of it is in consequence turned back, and forms an eddy flood, setting from below Red Inlet Reef, towards the Razade Islets. During the ebb tide, the stream of the Saguenay sets over to the southward in the same direction, hence the current on that side is always down.

There is no upward stream of the tide (excepting so close in-shore as to be useless to ships) all along the south coast from Cape Gaspé to a few miles below Red Inlet, in consequence of the union of this eddy flood with the main current of the river; and they have, therefore, so much influence on the navigation that I shall endeavour to trace their course more particularly.

Commencing from a short distance below the Red Islet Reef, the current is there very strong—about 4 knots. It decreases in velocity as it proceeds to the south-eastward, slanting over towards the Razade Islets; off which its rate is from 2 to 3 knots. It runs strongly along the northern edge of the Bank of Soundings off the south coast, upon which, especially in spring tides, a weak stream of flood will be found flowing in the opposite direction; and the boundary of the two streams is usually marked by a strong ripple. From Father Point to Cape Chatte, the rate of the downward current varies from $\frac{1}{2}$ to 2 knots, according to the tide, direction of the wind, and season of the year.

During the ebb tide the stream runs down on both sides, stronger on the south than the north coast, and weakest in the middle of the Estuary. It is deflected, or turned off to the southward, by the Points Mille-Vaches, Bersimis, Manicouagan, and Point de Monte, and by the ebbing streams of the large rivers between them: a circumstance which should be carefully attended to by vessels coming up with a northerly wind; as they will infallibly be set over to the southward upon a lee shore, if they do not make the necessary allowance by keeping their wind well over to the northward.

During the flood tide this stream still continues to run down outside the Bank of Soundings off the south coast, although with diminished velocity, and is felt about half way over towards the north shore. In the middle of the Estuary there is usually slack water; whilst along the north coast the stream of flood is regular in its recurrence, increasing in force as we ascend the Estuary. The strength of the stream of flood is greatest in-shore, and diminishes as we proceed over to the southward, till at the distance of about 3 leagues it becomes insensible. These differences in the strength and direction of the streams produce strong ripples in various parts of the Estuary, but their position varies with the different times of tide, and perhaps from other causes, so that they cannot safely be trusted for any guidance to the seaman.

Round Point de Monte there is little or no stream of flood, excepting very close in-shore; the downward current is constant, or nearly so, off that point; and it requires a fast-sailing vessel to beat round it against a westerly wind. Point de Monte turns this current over to the S.S.E., at a rate varying from 1 to 2 knots; so that a vessel, having a west wind, and standing over to the southward on the starboard tack, will be carried towards the south coast at a rapid rate, having the current on her weather quarter; during her board tack to the northward she will be retarded, the current being then directly opposed to her course. When sailing at the rate of 4 knots, it will usually require only about half the time to go from near Point de Monte over to the south coast, that it will take to return from the latter to the former. This is a most important circumstance, which it is necessary to carefully guard against, when beating up the Estuary in this part during dark nights, and especially in foggy weather.

Below Point de Monte the current is no longer felt near the north coast, nor, indeed, anywhere to the northward of a line joining Point de Monte and Anticosti. It is confined to the neighbourhood of the south coast, which it follows in its curve to the southward, running strongly past Cape Gaspé, Flat Island, and Bonaventure Island; whence, curving gradually to the south and S.E., it continues its course towards the entrance of the Gulf, with a rate very much lessened in consequence of the great space over which it is now spread. The usual breadth of this stream from Magdalen River to Cape Gaspé is 3 or 4 leagues; but this, I believe, is not uniform. When S.W. winds prevail, it appears that this current, or a branch of it, is driven over from the vicinity of Magdalen River towards Anticosti; part of the stream running round the west point of that island, sets across nearly towards Large Island (age of the Mingans), whence turning gradually down outside the Mingan and Esquimaux Islands, and along the north coast, it sweeps round the curve to the westward of Natashquan Point and is turned off to the southward, as has been already mentioned. The other part sweeps round the large curve, or bay, between the west and S.W. points of Anticosti, and is turned off to the southward by the latter point, frequently causing a great ripple off it, which has been mistaken for breakers on a much more extensive reef than exists there.

I have noted the rate of this current, off different parts of the south coast between Capes Chatte and Gaspé, in the months of June, July, August, and September, and in different years, and scarcely ever found it the same. It varied between 1 and 2

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Vessels beating up the St. Lawrence against westerly winds usually experience little difficulty in making good way to windward, after having weathered the west point of Anticosti and arrived on the north coast: because there is seldom any current on that side, and the tides, although weak, are tolerably regular. It is in general very easy to beat from the Seven Islands to Point de Monts; for there the stream of flood is stronger than the ebb; the latter, as well as the current, being turned off to the southward by Point de Monts. There seems, at times, also to be an eddy current there, sweeping round the great bay or curve between the above-named points. It sets off from above Egg Islet to the S.S.W.; and is the probable cause why vessels, which shape a direct course for Point de Monts with a leading N.W. wind off the land at night, so often find themselves obliged to haul up for, or unable, to fetch the light."

ST. PAUL'S ISLAND, THE MAGDALEN ISLANDS, BRYON ISLAND, THE BIRD ISLETS, ANTICOSTI.

ST. PAUL'S ISLAND.—This island is nearly 3 miles long, and 1 mile broad. The bearing and distance from the south point of the island to Cape North are, W.S.W. $\frac{1}{2}$ W., 13 miles; and from the north point of the island to Cape Ray, the bearing and distance are, E. by N., $4\frac{1}{2}$ miles. The margin is rocky and precipitous almost all round, indented by coves, in which shelter, during the prevalence of certain winds, may be obtained. A small detached islet forms its N.E. point, which is separated by a very narrow channel, from a peninsula, between 300 and 400 feet high, which, together with the isthmus, is so precipitous as to be nearly inaccessible.

Two lighthouses are established on this island; one on the northern end, and the other on the southern point, one of which will always be open, unless to a vessel very near the central rocks. The northern light is fixed, and visible six leagues all round the compass, except on the bearings between N. by E. and E. by N., when it will be obscured by the hills to the southward of it. The southern light revolves at about the same elevation as the northern one (140 feet), and is visible six leagues on all bearings, except those between West and S.S.E., when it is concealed by the land. At the southern lighthouse a bell is kept tolling in foggy weather, worked by machinery.

About a mile from the south point on the west side of the island, is Trinity Cove, at the northern part of which is a provision post; and on the opposite side of the island is Atlantic Cove: a landing may be effected in either of these. The cove on the N.W. affords a small and bold beach, about 150 feet long, where a landing may be effected, but generally with difficulty, by reason of the continual swell of the sea. The interior of the island rises into three hills, the highest being nearly in the centre, and terminating in a square summit of about 50 feet on each side, nearly perpendicular, and estimated to be about 500 feet above the level of the sea. The surface of the island is, in general, rocky, with some spots of marsh or bog, which probably supply the fresh water issuing from the rock. Stunted fir and white birch trees are the only products of the isle, but some drift wood may be picked up.

There is anchorage all round the island, and close in-shore, which circumstances enables vessels to lie there with any winds, by shifting their stations as the wind and weather require:—a mode practised by the privateers of the United States during the late war. There are tolerably regular soundings off the north side, at the distance of half or three-quarters of a mile; on the N.E. side a bank lies off about three-quarters of a mile, with from 7 to 8 fathoms of water. The general depth of the soundings around the island, at half a mile from the shore, is from 30 to 40, but the water soon deepens to 100 fathoms, so that there is little or no warning by the lead when approaching this island in foggy weather. There is a plentiful fishery of cod and mackerel around the coast, and also an abundance of seals.

MAGDALEN ISLANDS.—These islands form a chain, in an irregular curved direction, and lie between the parallels of $47^{\circ} 12'$ and $47^{\circ} 36'$ N. The Magdalens, when first made from sea, appear like several hilly islands, with channels between; but, on a

nearer approach, they are seen to be all connected together, with the exception of Entry Island, by a double line of sand-bars and beaches, inclosing extensive lagoons, having very narrow entrances, by which the tide finds access and egress. In some parts these sand-bars are only a few feet above the sea, whilst in others they rise into hills of sand of considerable height. They appear to be increasing, since there are generally ridges of sand, with from 9 to 12 feet water, parallel to and from 50 to 100 fathoms outside the beach. Between these ridges and the shore there are 3 and 4 fathoms of water, a circumstance which has proved fatal to the crews of vessels wrecked upon these shores. The central parts of these islands attain an elevation of 200 to 580 feet. They contain a population of about 1100 inhabitants, whose principal dependence is upon the cod-fishery. Wood, for fuel, is scarce near the settlements, and large spars are not to be had. Small supplies of fresh provisions may be obtained, especially from Entry Island; and water may be had from Amherst Harbour. These islands possess no harbours for ships; but there are three fit for small vessels, named Amherst, House, and Grand Entry Harbours. The names of the islands are Entry Island, Amherst, Grindstone, Alright, Wolf, Grosse, and Coffin Islands; exclusive of Bryon or Cross Island, and the Bird Islets, which lie more to the north.

AMHERST ISLAND.—The most southerly and principal island of the group is Amherst Island, which is connected with Grindstone Island by a double line of sand-bars, enclosing an extensive lagoon, 5 or 6 miles long, and from 1 to 3 wide, the southern part of which is named Basque Harbour: it has three outlets into Pleasant Bay; the southernmost is the deepest, but has only 3 feet at low water. To the east of this, and N.E. of the island, is Pleasant Bay, which is the best roadstead in the Magdalens, and the only one where vessels can venture to lie with all winds, during June, July, and August. The best anchorage is in 4 fathoms, with the rocky point of the entrance of Amherst Harbour bearing S.W. $\frac{1}{2}$ W. two-thirds of a mile. Amherst Harbour is situated in the S.W. corner of Pleasant Bay; its entrance is very narrow and crooked, and over the bar is 7 feet least water.

The hills in the interior of Amherst Island rise to the height of 550 feet above the sea. Towards the S.E. part of the island, and about a mile to the N.W. of Amherst Harbour, is the very remarkable conical hill, named the Demoiselle, 280 feet high. At $7\frac{1}{2}$ miles, N.W. $\frac{1}{2}$ W., from the western part of Amherst Island, is situated Deadman's Islet, which is about 3 cables in length, and $1\frac{1}{2}$ in breadth, and is about 170 feet high; a reef extends from it, about one-third of a mile, towards Amherst Island. At 7 miles, N. 60° E., from Deadman's Islet, and $5\frac{1}{2}$ miles, W.N.W., from Gill Islet is a very dangerous reef, named the White Horse, which is small, only about a cable's length in diameter, and has but 10 feet water over it; on it the sea often breaks.

GRINDSTONE ISLAND.—This island is the next largest of the group, being, in respect of size, intermediate between Amherst and Alright Islands. Its highest point is elevated 550 feet above the sea at high water. On the west side of the island is a dangerous reef, with 18 feet least water, named the Pierre de Gros Cap, which is seldom seen, as the sea breaks upon it only in very heavy weather. It lies N.E. by E. $\frac{1}{2}$ E., 6 miles from the White Horse; N.W. by W. from Hospital Cape; and $8\frac{1}{2}$ miles from Cape la Trou, the nearest part of Grindstone Island; this reef, as well as White Horse Reef, may be cleared on the west side by not bringing Deadman's Islet to bear westward of S.W. $\frac{1}{2}$ W.

ALRIGHT ISLAND.—This island lies to the eastward of Grindstone Island. Cape Alright is the southern point of the island, and is remarkable, the cliffs being of a greyish-white colour, with occasional brick-red low down, and 400 feet high. The south extremity of the cape is low, with a small rock close off it. To the N.W. of Cape Alright, about $2\frac{1}{2}$ miles, is the entrance to House Harbour; it is narrow and crooked, with only 6 fathoms water in it.

Alright Reef lies S. 80° E., $3\frac{1}{2}$ miles from Cape Alright, to the outer edge of the reef, which is 400 fathoms long by 300 wide; it is of white pointed rocks, having only 6 feet over them. To clear it on the S.W. side, keep the well-marked summit of Grindstone Island open to the south-westward of Cape Alright; and to clear the S.E. side of the reef, keep the east side of the woods of Wolf Island (seen over the bar) open to the eastward of Shag Island.

WOLF ISLAND.—From Grindstone Island the sand-beaches continue in a north-easterly direction, for 10 miles, to Wolf Island, which is about three-quarters of a mile long, with low sandstone cliffs; from Wolf Island the sand-beaches recommence

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and continue, with occasional sand-hills, 9 or 10 miles farther, to the North Cape in Grosse Island. A rocky shoal, of 3 fathoms, named the Wolf Rocks, lies about half a mile from the shore off Wolf Island, and 10 miles north-eastward of Hospital Cape.

GROSSE ISLAND.—The northern point of Grosse Island is the North Cape of the Magdalens, and is a precipice of considerable height. The North Cape Rocks lie to the westward of the cape, the outermost being about 600 fathoms from the shore. The sandy beaches and hills continue, from Grosse Island, curving to the eastward, 6 miles farther up to the East Point.

The East Point of the Magdalens is of low sand, inclosing several shallow ponds, and having several sand-hills, extending westward to the N.E. Cape. Off the East Point is the Long Spit, a ridge of sand, with from 2 to 3 fathoms of water, extending 1½ miles S.E. ½ S. from the point; and for 1½ miles farther in the same direction the depth is from 4 to 6 fathoms. To clear this spit in 5 or 6 fathoms, take care not to bring Old Harry Head, the N.E. point of Coffin Island, to bear to the southward of west. It is extremely dangerous, and there is a heavy breaking sea on it.

Boyle Reef lies S.E. ½ E. 6½ miles from the East Point. The least water on it is 3 fathoms on one spot, and 12 to 13 fathoms all round it. It seldom shows, but is one of the worst dangers of the Magdalens. The only mark to clear it is the North Cape of the Magdalens open two-thirds of its breadth to the N.E. of the North-East Cape, which is a remarkable hill, 220 feet high, on East Island, which stands at the head of Grand Entry Harbour, and can be seen over all the sand-hills.

COFFIN ISLAND.—This island lies to the S.W. of East Point, and its N.E. point, named Old Harry Head, lies W.S.W. 4½ miles from it. The Columbine Shoals are a patch of rocks, with only 3 fathoms on them, lying S.S.W. ½ W., 2½ miles, from Old Harry Head. There are numerous small shoals and patches within them, towards Coffin Island, on some of which are only 3 feet. This is a dangerous part, and should not be approached at night, or during fogs.

The entrance of Grand Entry Harbour, situated at the S.W. end of Coffin Island, is extremely narrow, and ought not to be attempted without a pilot. The depth in this entrance is not more than 10 feet least water, and the harbour itself is extensive and well sheltered.

At 6 miles W.S.W. from the entrance of Grand Entry Harbour, is Shag Island, which is small and low, and out of the way of vessels.

ENTRY ISLAND.—At 7 miles, S. ½ E. from Cape Alright, is the N.E. point of Entry Island, and the channel into Pleasant Bay lies between them, and also between Alright Reef and the Pearl Reef. The summit of Entry Island is 580 feet above the level of the sea, and is visible 8 or 9 leagues off, in clear weather. The red cliffs of this island are magnificent and beautiful, rising at the N.E. point to 350 feet, and at the south point to 400 feet. The S.W. cliffs of Amherst are also steep, but of less height; and as there is no land to the southward and westward, it cannot be mistaken.

The Pearl Reef is a small dangerous Reef of white-pointed rocks, having only 8 feet water over it. It bears E. by N., 4½ miles, from the N.E. part of Entry Island, and S.E. ½ S., 8½ miles from Cape Alright; even with a moderate swell the sea breaks heavily upon it. Demoiselle Hill kept more than half a point open to the northward of Entry Island, will clear it to the northward, and the same hill shut in with Entry Island clears it to the southward.

BRYON ISLAND.—This island is about 4 miles long in an E. by S. and W. by N. direction, and is only a mile broad. The north side is the highest, and on the south side are some coves, where boats may easily land with the wind off shore. Its eastern end bears from the East Point of the Magdalens, N. by E. ½ E. 10½ miles, but its S.W. point approaches to within 8½ miles of the North Cape of these islands. A reef runs off from the S.W. end of the island 1½ miles; another from its east end ½ of a mile to the N.E.; and there is a third running off to the southward from the S.W. point of the island, 1½ miles. Close to the eastward of the last of these reefs there is good anchorage, in 4 or 5 fathoms, or in 6 fathoms a mile from the shore. Small vessels often ride out heavy N.W. gales under this island, close to the reef. Between Bryon and Magdalen Islands the soundings are regular, from 9 to 11 fathoms, excepting a patch of foul and rocky ground with 5 fathoms upon it, lying between S.W. ½ W. and W.S.W. from the west end of Bryon Island. Although the soundings in approaching Bryon Island are regular, great care must be taken in approaching

the reefs before mentioned, as they are very steep, especially the one running to the southward.

THE BIRD ISLANDS are small and not far apart: they are of moderate height, and flat and white at the top. In the passage between them there are rocks. The southernmost is the largest; from the east end of the N.W. Bird Rock there extends a ledge of rocks.

Nearly midway between Bryon and Bird Islands there is a rocky shoal, said to have only 4 fathoms on it in one part, but not less than 7 have been found on it. This, as well as the patch $3\frac{1}{2}$ miles W.S.W. of Bryon Island, should be avoided by large ships in rough weather.

At 4 leagues to the eastward of the Bird Islands is the edge of the bank of soundings, on which are 55 fathoms. You should come no nearer the east side, in thick weather, than 40 fathoms.

ANTICOSTI.—The island of Anticosti lies at the entrance of the River St. Lawrence, and is about 40 leagues in length by 10 in breadth. It is of moderate height, being estimated to be nowhere more than 700 feet high, and is extremely barren, affording scarcely any support for the few quadrupeds which inhabit it. Although so destitute of sustenance, yet streams of fresh water may be found on every part of the coast, but generally too small even for boats. These streams become rapid immediately within their entrances; and even the largest of them, Observation River, to the westward of the S.W. Point, is barred with sand, excepting for short intervals of time after the spring freshets or heavy rains. There are no harbours or anchoring places suitable for large vessels. The only inhabitants are the people in charge of the light-houses and provision posts, and at Fox Bay at the east end of the island.

Upon the island there are various provision posts established by the Government of Lower Canada for the relief of castaway crews, one of which is at Ellis Bay, 2 leagues S.E. from the west end of the island; the second at the lighthouse on the S.W. Point; a third at Jupiter River or Shallop Creek; and a fourth at Heath Point.

There have also been placed direction boards at different parts of the island, near the beach, to assist persons, who may have had the misfortune to be wrecked, in finding the provision posts above mentioned, which are nailed to trees with their branches cut off, to render the writing visible. They are or were placed as follows:—1st, on the west point of the island; 2nd, 4 leagues south-eastward of Ellis Bay; 3rd, 10 leagues westward of Jupiter River; and the 4th, 7 leagues eastward of Jupiter River.

Lighthouses.—There are now two excellent lights established on this island.

The S.W. Point Lighthouse is built on the extremity of the point. The tower is of the usual conical form, 75 feet high, and shows a bright light, revolving every minute, which can be seen from N.N.W. round by west and south to S.S.E. $\frac{1}{2}$ E. The lantern is 100 feet above the level of high water, and can be seen 15 miles from the deck, and 19 $\frac{1}{2}$ miles when the eye is elevated 50 feet. To the lighthouse is attached a provision post, which forms a conspicuous landmark.

Heath Point Lighthouse is of the same form, dimensions, and colour as that on the S.W. point of the island. It shows a bright fixed light from W.N.W. to N.E. by N., at 100 feet above the sea, and can be seen 5 or 6 leagues in clear weather. It was first lighted in October, 1848.

EAST CAPE.—The East Cape, in lat. $49^{\circ} 8' 25''$ N., and long. $61^{\circ} 39' 50''$ W., is a perpendicular cliff, 200 feet high. To the southward of it, at the extremity of the low land, is Heath Point, with its lighthouse. This building at a distance appears like a sail, and is useful in marking the extent of low land to vessels either to the east or west of North. Between Heath Point and East Cape is Wreck Bay, in which there is no anchorage.

A dangerous reef runs off Heath Point about 2 miles in an E.S.E. direction; beyond which are 5 fathoms, increasing to 7 fathoms at the distance of 3 miles from the point. To avoid it, come not nearer to the east side of the point than 20 fathoms; to the south-westward of the point the shoal water only extends off three-quarters of a mile. A little farther to the westward is one of the best open anchorages on this side of the island, where you may anchor in 10 fathoms, with the lighthouse bearing E. by N., and Cormorant Point W.N.W., on a bottom of sand and mud, at nearly 2 miles from the shore.

During westerly winds it would be dangerous to approach too near the east side of

Heath Point, for the winds coming along the land on each side of the island, sometimes do not meet until several miles to the eastward of the point. Between them you will be becalmed, and a strong current round the point might set you upon the reef.

About 6 miles W. by N. from Heath Point is Cormorant Point, beyond which, at the distance of 16½ miles, is South Point, off which a reef runs nearly 1½ miles, causing heavy breakers. To clear this reef at the distance of 2 miles, bring Heath and Cormorant Points in one bearing E. by S. South Point has a beacon 40 feet high upon it, situated in lat. $49^{\circ} 8' 43''$ and long. $63^{\circ} 18' 30''$ W.

From South Point to the lighthouse on the S.W. Point, the distance is 56 miles, and the intervening land has a similar appearance throughout. Between these points are the Jupiter River or Shallop Creek, Pavilion River, and Salt Lake River and Bay.

At Jupiter River, which lies 13 miles N.W. of South Point, are the houses of the provision establishment. Pavilion River lies 10 miles from Jupiter River, and its locality may readily be distinguished by the beacon erected near it; between, the coast is all low, but may be approached safely by the deep-sea lead, the reefs nowhere extending more than 1½ miles off. At nearly 21 miles to the north-westward of Pavilion River are Salt Lake River and Bay, from whence to S.W. Point the coast is higher and bolder, and should be approached with caution in foggy weather. When standing in-shore at night, do not bring the lighthouse to bear to the westward of N.N.W. Off the centre of Salt Lake Bay is indifferent anchorage in 7 fathoms, which must be very cautiously taken; six miles eastward of this bay there is a beacon, the latitude of which is $49^{\circ} 17' 30''$, and the longitude $68^{\circ} 20' 30''$ W.

S.W. POINT.—The S.W. Point is a low point, with a small cove on its north side, and has a reef running off it about half a mile towards the west and south-west, 2 miles outside of which are 30 fathoms. In this cove vessels may anchor in 12 or 13 fathoms, sand and gravel, with the extremity of the point bearing S.S.W. ¼ W., distant three-quarters of a mile, sheltered from N. by E. to S. by W.; but the anchorage is not recommended, being exposed to westerly winds, and the ground being indifferent. Hence to Ellis Bay the coast is lined by reefs extending out, in most parts, about a mile, with 10 or 12 fathoms close to them; and there is no safe anchorage for vessels. In running down this shore the lead should be kept going.

About 5 miles to the northward of S.W. Point is Observation River, the largest stream on the island, having 5 or 6 feet water at the entrance, but barred with south-westerly gales. On the north side of the river are some high sandy cliffs, and 16 miles farther westward are some others, named the St. Mary's Cliffs, of less height and less remarkable, but not difficult to distinguish, as their situation is pointed out by a beacon, in lat. $49^{\circ} 40' 30''$, and long. $63^{\circ} 68' 00''$ W. Beyond St. Mary's Cliffs at the distance of 7 miles is a small stream, falling into a cove, named the Beesie River; this cove affords shelter for boats.

Ellis Bay affords tolerably good anchorage. Its east point is named Cape Eagle, and its west point Cape Henry.

A reef of flat limestone runs off a mile south-westward from Cape Henry; and another reef runs off three-quarters of a mile to the westward from Cape Eagle; the entrance between them is 600 fathoms wide, from 3 fathoms on each side. Both the reefs show themselves by a line of breakers.

In approaching this bay from the westward, run down along the reefs off Cape Henry in 10 fathoms, until the west side of the White Cliff, which is on the east side of the bay, comes on with the east side of the westernmost of two hills, back in the country, bearing N.E. ¼ N., then haul up with these marks on, which will lead you into smooth water, close under Cape Henry Reef, in 3½ fathoms. Continue running on until Gamache House bears N. by E., then haul up for it, and anchor in 3 fathoms, maddy bottom, about half a mile from the flats at the head of the bay, and 300 fathoms from those on either side. Keep the lead constantly going.

In running for the bay from the eastward, with an easterly wind, keep along Cape Eagle Reef, in no less than 7 fathoms, till the east side of the White Cliff comes on with the east side of the same hill, as before; then haul up till the houses bear N. by E., and proceed as before. It is high water at Cape Henry, full and change, at 1h. 45m.; spring tides rise about 7 feet, neaps, 4 feet.

Ellis Bay may be readily known by Cape Henry, which is a bluff point, and the land at the head of the bay being low causes the entrance to show distinctly. Two ridges of hills, back in the country, will help to distinguish it.

WEST POINT is low and wooded, with reefs extending not more than a mile from the shore. It may be safely rounded in 15 fathoms, at the distance of $1\frac{1}{2}$ miles. Between West Point and Ellis Bay, the shore is lined with reefs to the distance of $1\frac{1}{2}$ miles, it must not therefore be too closely approached.

The coast from West Point to North Point is low, with reefs running off about a mile, and should not be approached nearer than 25 fathoms. From North Point to High Cliff, the distance is 13 miles, with a moderately low and wooded shore. High Cliff may be easily known by being the only one on the island that has not its base washed by the sea.

White North Cliff lies 20 miles south-eastward of High Cliff; this part of the coast is dangerous, for at about one-third of the distance from High Cliff the reefs extend fully 2 miles from the land, and continue so for some distance. On approaching White North Cliff they only reach about half a mile from the shore. White North Cliff may be seen 6 or 7 leagues off, appearing like a white patch.

Carleton Point lies 10 miles south-eastward of White North Cliff; under this point vessels may anchor in fine weather, and procure wood and water.

About 10 miles south-eastward of Carleton Point is Cape Observation, a high, bold headland, under which vessels may anchor during westerly winds and fine weather, and obtain supplies of wood and water very conveniently. Farther eastward, at the distance of $12\frac{1}{2}$ miles, is Bear Head, a similar headland to Cape Observation, and 400 feet high, which last-named cliff may be easily recognized, as there are no high cliff headlands of equal height to the westward of it.

Between Bear Head and Cape Robert is Bear Bay, which is considered to be the best roadstead on this part of the coast of Anticosti; as the bottom is excellent, the depth moderate, and the shelter extends from N.N.W. round by west and south to S.E. by S. It is divided by two high cliffs, into three bays, in each of which is a fine beach of sand and shingle and a fresh-water stream. The best anchorage is in 18 fathoms with Tower Point (the southernmost of the cliffs) bearing N.W. $\frac{1}{2}$ W., Cape Robert S.E. $\frac{1}{2}$ E., and Bear Head N. by W. $\frac{1}{2}$ W.

To the south-eastward of Cape Robert, distant 19 miles, is Table Head, remarkable by its hill of a table form, immediately behind it; the coast between contains several small bays, but no anchorage. Four miles farther is Fox Head, much lower than Table Head, and to the southward of the head is the bay, affording good anchorage for small vessels during the summer months. The southern point of the bay is named Reef Point, and has a reef running off it fully $1\frac{1}{2}$ miles, close off the end of which are 10 fathoms, so that to avoid it vessels should not approach nearer than 18 fathoms. The north point of the bay has also a reef running from it, fully half a mile. Winds from E. by N. to E.N.E. blow directly in.

Hence to East Cape the coast is cliffy and about 100 feet in height, but bold and free from danger. About half way is Cape Sand-Top, between which and East Cape vessels may anchor during westerly winds, in 16 to 20 fathoms, fine sand, at a mile from the shore.

THE NORTH COAST OF THE GULF.

CAPE WHITTLE TO THE MINGAN ISLANDS.

THE first bay to the westward of Cape Whittle is Wolf Bay, a place full of rocky ledges, but which, however, all show. On the west side of the bay is the island of the same name, of a greater height than the islands usually are off this part of the coast, being about 150 feet high, hence it is easily recognized; outside of it is a small low islet.

To the westward of Wolf Islet is Coscocho Bay, affording the only anchorage for large vessels on this part of the coast, and which is represented to be easy of access, although the number of inlets and rocks scattered about would convey a different impression. At the head of the bay is the Basin, an excellent harbour, and another

harbour is formed by an arm running in an E. by N. direction, named the Tertiary Shell Bay, which is equally safe. Farther out than these harbours the bay is more than half a mile wide, and quite sufficiently sheltered for the safety of any vessel with good anchors and cables.

Outside the entrance of the bay are two small dangerous ledges, named the South and South-west Breakers, the first of which has only 12 feet on it, and shows only in heavy weather; it lies W.N.W. $\frac{1}{2}$ W. from the small low islet outside Wolf Islet, and is the outermost of any danger on this part of the coast. The South-west Breaker has but 8 feet on it, and bears N. W. by N., $2\frac{1}{2}$ miles from the South Breaker, and west $2\frac{1}{2}$ miles from Point Audubon, the west side of the bay.

The passage into the bay lies between these breakers, and in sailing in, the rule is, to leave Outer Islet (the low islet off Wolf Island) and the rocks to the northward of it, 300 fathoms to the eastward, and when abreast of these rocks, a chain of low rocks, extending off to the south-west of Emery Island, will be seen right ahead. Bring the point of this chain to bear N.E. $\frac{1}{2}$ N., when it will appear on with the extreme point of the mainland, on the N.W. side, near the head of the bay, and run in on this mark, leaving some rocks, which lie 600 fathoms off the east side of Audubon Islets, to port, and then haul to the northward a little, so as to leave the Emery Rocks on the starboard. Their outer point bears N.N.E. $\frac{1}{2}$ E., 8 miles from Outer Islet, and when up to them, the bay is open before you, and clear of danger. The farther in, the better the ground, and the less the swell with S.W. winds, which are the only winds that send any swell into the bay. Tertiary Shell Bay is quite clear, excepting a small rock, one quarter of a mile within the entrance, which you must leave on the starboard hand; within it is perfectly land-locked, with from 5 to 11 fathoms, muddy bottom.

To enter the Basin, you leave Tertiary Shell Bay, and the point of low rocks to the northward of it, to the east, and continue the course till within half a mile of the island, at the head of the bay. Then steer over to the eastward, towards that island, to avoid a shoal of boulder stones, extending 300 fathoms off the west side of the bay, leaving a deep channel between it and the island, 100 fathoms wide. Leave the island 50 fathoms to the eastward, and as you pass through, the water will deepen from 9 to 19 fathoms, and as soon as you are past the inner end of the island, haul to the N.W., into the mouth of a small bay, anchoring in 8 fathoms, over mud, and perfectly sheltered. On the east side of the entrance of the river, is a house occupied for fur-trading and salmon-fishing.

In running for the bay from the westward, you may either pass between the South-west and South Breakers, by bringing the inner or N.E. end of Wolf Island to bear East, and steering for it; or by bringing Outer Island to bear nothing to the southward of East, and running towards it, until you are within less than a mile, when you may haul in for the Emery Rocks, as before.

Thirteen miles to the westward of Coscocheo Bay is the River Olomanochebo, Point, or La Romaine, for each of these names it bears. It is very shoal, and has a trading post on its east side, and can scarcely be seen from the sea on account of the islets, but may be known by the low sandy cliffs, covered with spruce trees, on either side of the entrance. The coast to the eastward and westward is fringed with innumerable islets and rocks. When sailing to the westward, soon after leaving the river, you will see Treble Islet and Loon Rocks; the latter are 3 miles from the main and always visible, and are the outermost dangers on this part of the coast.

Wash-shocootai Bay, 10 miles west of Olomanochebo, has off its entrance several small rocky ledges, making it very difficult of access. Three miles within Cloudberry Point, the western point of the bay, the bay contracts to a very narrow inlet, with several rocks and islets in it, and after proceeding about 8 miles you will reach a trading post of the Hudson Bay Company.

Musquarro River, another post of the Hudson Bay Company, $4\frac{1}{2}$ miles westward of Cloudberry Point, is situated 3 miles within the west point of a bay full of small islets and rocks, and becomes narrow and rapid just within the entrance. It will be known by the houses on the east side of the entrance, and also by a remarkable precipitous red ridge of granite, about 200 feet high, and 3 miles to the west of the river. It can be used only by boats and very small vessels.

KESASHKA BAY.—About $4\frac{1}{2}$ miles to the westward of Musquarro River is Cuslew Point, having off it several low bare rocks and ledges which are always visible; this

point forms the eastern side of Kegashka Bay, a wild place, safe only in fine weather and has a sandy bottom with bad holding ground. The western side of the bay is Kegashka Point, consisting of an island nearly joined to a rocky peninsula, and distinguished from all other islands on this coast, by being partly covered with spruce trees. A chain of small islets, wide apart from each other, afford very indifferent shelter from the prevailing southerly winds, and the heavy sea which they roll in upon the coast. The best berth is in the N.W. corner of the bay, where the vessel must be moored with an open hawse to the eastward, and have a third anchor on shore to the S.W. so as to be able to haul close in under the point, in the S.W. and southerly gales; her bows will then be within 15 or 20 fathoms of the rocks, and the spray of the sea, breaking on the point, will reach her bows.

To enter the bay, the best channel is between a small and low black islet, lying between Green Island (which is covered with grass, three-quarters of a mile eastward of Kegashka Point) and Kegashka Point. This channel is 170 fathoms wide, and 8 deep, and is quite clear; the only direction necessary when coming from the westward, is to give the south extremity of Kegashka Point a berth of a quarter of a mile, or to go no nearer than 8 fathoms; then run along the east side of the point, which is quite bold, leaving all the islets on the starboard hand. Three-quarters of a mile on a N.E. $\frac{1}{2}$ N. course, will bring you to the narrow channel between the westernmost islet and the inner end of Kegashka Point; haul round the point to the north-westward, at the distance of half a cable, and when within it, anchor as before stated.

In coming from the eastward, give Curlew Point a berth of half a mile, and run N.W. $\frac{1}{2}$ N. $\frac{3}{4}$ miles, till the inner end of Kegashka Point bears North, and then proceed as before. It is high water on the days of full and change of the moon at 10 $\frac{1}{2}$ h., with a rise at spring tides of 5 feet.

Three miles to the westward of Kegashka Bay is the river, which affords only shelter for boats. Within the entrance there is a fishing station.

NATASHQUAN POINT.—From Kegashka River the coast runs 15 miles to the westward to Natashquan Point, in nearly a straight line, and presents nothing remarkable, consisting principally of a sandy beach in front of sandy cliffs covered with spruce trees.

Nearly 5 miles to the westward of Kegashka River, and 1 $\frac{1}{2}$ miles off shore you will meet with a rocky shoal, which should not be approached nearer than 17 fathoms, not having been examined.

Two miles before reaching Natashquan Point is Mont Joli, a small eminence, scarcely distinguishable. Captain Bayfield remarks that "Mont Joli has no existence, at least there is no mountain, nor even anything that deserves the name of a hill; but near the termination of the sandy cliffs, which end at the S.W. extremity of Natashquan Point, the sandy ridge, with spruce trees, rises into a slight mound, a very little higher than the rest of the country. This is Mont Joli; but so little remarkable in its appearance that we should not have noticed it, had it not been for its name."

The *Ood Banks* off this part of the coast, are of sand, gravel, and broken shells, and have 24 to 40 fathoms on them. They are from 6 to 11 miles from the shore, with 50 fathoms between. There is a small ood bank, with 4 $\frac{1}{2}$ fathoms least water, at $\frac{1}{2}$ miles S.W. from the S.W. end of Natashquan Point.

On the west side of Natashquan Point is the river of the same name, having an entrance of about a mile in width. An island divides this entrance into two narrow channels, the northernmost of which is nearly dry, but the southernmost has 9 to 11 feet water at high tide. At the distance of half a mile from the island, on the south shore, there is a trading-post and fishery. Above this the river is navigable only for boats.

At the distance of $\frac{3}{4}$ miles from the river, is Little Natashquan Harbour, formed by a number of islets and rocks, and fit only for small vessels. The entrance to it is between some islets on the east, lying near the mouth of the Little Natashquan stream, the westernmost of which is much the largest, and on the western side is a rather high and round-backed islet of grey granite, with a wooden cross on it. Off this islet a reef extends S.W. by S. rather more than half a mile. Between the two sides of the entrance, is a central reef, part of which always shows, and which is bold to, on its east and south sides; the other sides must have a berth in passing

them. To enter the harbour, having arrived in 12 fathoms at half a mile distant from the harbour, and made out the islets at the entrance, bring the west point of the longer island on the east side, to bear N.E. by N., and the islet with the cross on it will bear N. by E. $\frac{1}{2}$ E.; and then steer for the latter, till abreast of the outer part of the reef to the westward, and then bear sufficiently to the eastward to pass on either side of the central reef, keeping clear of the shoal water on its north and northeast ends, and anchor in the centre of the harbour in 4 fathoms, with the rock of the central reef bearing S.S.W. $\frac{1}{2}$ W., 180 fathoms off, and the cross N.W. by W. $\frac{1}{2}$ W.

Five miles to the N.W. of Little Natashquan is Washtawooka Bay, an intricate and dangerous place, full of small islets and shoals. Outside the bay is an islet or rock larger than the rest, named Shag Islet, which will help to distinguish it. Ten miles from Little Natashquan is Agwanus River, a stream difficult of access on account of the small rocks at the entrance; and 5 miles farther is Nabeisippi River, only admitting boats in fine weather, with a trading station on its west bank.

Hence to the westward are Pashasheebou, Mushkoniatawee, and Washtanagnashka Bays, which are full of rocks and too difficult of access for a stranger, although visited by the coasting vessels. Beyond these are the bays of Quetachoo-Manicouagon, Peshtebai, and Appeeletat, to which a similar observation may be applied.

A good mark to know this part of the coast is Watcheeshoo Point on the east side of Quetachoo-Manicouagon Bay, which is composed of granite, 127 feet high, and bare of trees; it is a peninsula, having the appearance of an islet, higher than the rest, when seen from a distance. It bears E.S.E., 14 miles from St. Genevieve (one of the Mingan Islands) and N.W. by W., 18 miles, from Nabeisippi. Inland, 6 miles from this, is the Saddle Hill, 374 feet high. Along the coast between the Natashquan and the Mingans, there are innumerable small and bare islets and rocks, but nowhere extending from the points of the main beyond $2\frac{1}{2}$ miles. A vessel, therefore, ought not to approach nearer than 26 fathoms.

THE MINGAN ISLANDS are low, and estimated nowhere to attain an elevation exceeding 800 feet above the sea, being in general much lower. They possess very little soil, but nevertheless are thickly wooded with spruce, birch, and poplar, on the side towards the mainland; though towards the sea, barren tracts often occur, composed either of bare limestone, or of banks and ridges of limestone gravel. Supplies of wood and water can readily be obtained from the principal islands, wild berries are abundant in their season, and so are different kinds of wild fowl. Quadrupeds are scarce, but there are plenty of seals upon the limestone reefs, and a few cod-fish off the coast.

The coast of the mainland proceeding from west to east, from St. John River to Mingan, is of sand and clay, low and thickly-wooded, and with a fine sandy beach. Farther eastward the shore is sometimes of granite, and at others of limestone, the latter rock lying immediately over the former.

Mount St. John, 1416 feet high, is the highest point of the mainland in this neighbourhood. There are other hills, estimated at 1000 feet above the sea, about 6 leagues farther eastward, about 6 or 7 miles inland, and nearly opposite Quarry Island. With these exceptions the main is low, especially opposite the Eastern Islands, where the hills are far back in the country.

The tides among these islands, never exceed a knot, excepting in very narrow channels. They are often rendered irregular by the winds, but in fine settled weather there is a constant alteration of the streams of flood and ebb between the islands and the main, and also within the distance of 2 or 3 miles from the southern shores of the islands.

None of these islands, of which there are 20, are inhabited, some of them are very small, and the largest does not exceed 11 or 12 miles in circumference. They are arranged parallel to the coast, and extend along it 45 miles from St. Genevieve Island, the easternmost, to the Perroquets the westernmost.

Clear Water Point, which is 14 miles to the westward of St. Genevieve, projects out so as to interrupt the continuation of the chain of islands, and thus separates them into two divisions, the easternmost of which has been named the Equimaux Islands, a name which should be confined to the island, properly so called in the western division.

St. GENEVIEVE, the easternmost of the Mingan Islands, is about 5 miles in

circumference. Its N.E. point is a bluff headland, being the termination in that direction of the highest part of the island, which is about 200 feet above the sea, and slopes irregularly down to the southward.

MOUNT ST. GENEVIEVE is an isolated table hill on the mainland, of limestone, 332 feet above the level of high water, bearing N. $\frac{1}{2}$ E. rather more than 3 miles from the N.E. point of the island of St. Genevieve. This mountain, and the high N.E. point of the island, distinctly point out to a vessel at sea, the position of the channel between the island and the main. There are two patches of rock which render it necessary to approach the island of St. Genevieve with caution, viz. the Saints, and the Bowen Rocks.

The Saints are two low and bare rocks, lying about three-quarters of a mile to the south of St. Genevieve. There is a channel of 5 fathoms deep, but with foul ground, between them and the island; and reefs under water extend from each of them fully 300 fathoms to the south, S.E., and S.W.

The N.W. Bowen Rock, with 3 feet least water, lies about $1\frac{1}{2}$ miles E.S.E. $\frac{1}{2}$ E. from the eastern Saint, and with the south side of the latter on with the centre of the western Saint.

The S.E. Bowen Rock, with 6 feet least water, lies two-thirds of a mile S.E. $\frac{1}{2}$ S. from the north-west Bowen Rock, and S.E. by E. $\frac{1}{2}$ E., $1\frac{1}{2}$ miles, from the eastern Saint, which is just open to the northward of the western Saint. These very dangerous rocks lie nearly in a line from the S.E. point of St. Genevieve, at the distance of $1\frac{1}{2}$ and 3 miles, respectively. There is very deep water between and close to them, and also for rather more than a mile to the southward of them and the Saints. The soundings are here extremely irregular, varying from 4 and 6 fathoms rock to 43 fathoms sand, sometimes in a single cast of the lead. The whole of this dangerous part should be avoided by vessels.

HUNTING ISLAND, the next westward of St. Genevieve, is low, thickly-wooded and broken into many coves, fringed with small islets and rocks on all sides, excepting towards the mainland; it is about 11 miles in circumference. Its longest diameter is parallel to the coast, and about 4 miles. Off its S.W. point, and extending to the distance of $1\frac{1}{2}$ miles, lie Wood and Gun Islands, leaving no passage between, and having reefs running out from them 300 fathoms to the southward. They are both low, and the latter is bare of trees, but covered with grass and peat, in which multitudes of puffins burrow and rear their young.

The Garde Rock, always above water, lies rather more than a mile off to the southward, from near the centre of Hunting Island; it would be highly imprudent for any ship to attempt a passage between it and the island, as there are many ledges scattered along the southern side of the island, and the Garde is itself the termination of a long ridge of sunken rocks. The south-eastern end of the island is likewise beset with several reefs, some of which extend three-quarters of a mile to the southward.

Collins Shoal, a small patch of rocks, with 13 feet least water, lies $2\frac{1}{2}$ miles south, from the S.E. point of Hunting Island. The marks on this dangerous shoal are the east point of St. Genevieve just open to the eastward of the western Saint, bearing N. 85° E., and the north point of Wood Island on with the south side of the Garde Rock, bearing N.W. Between Collins Shoal and the reefs off the S.E. point of Hunting Island, the soundings are irregular, from 4 to 17 fathoms over rocky bottom, and vessels should not pass there, as in such a place it was impossible to be sure of having discovered every point of rock which may approach a few feet nearer the surface than the rest.

ST. GENEVIEVE AND BETCHEWAN HARBOURS.—The first is situated between the island of the same name and the mainland, and the second, between Hunting Island and the main. Both are excellent harbours, not difficult of access or egress, and fit for the largest ships. There are two channels leading to these harbours; namely, the East, and the Saints Channels.

To enter by the *East Channel*, with an easterly wind, observe the following directions:—Being at a distance from St. Genevieve Island, of not less than 3 miles, be sure that you are farther out than Bowen Rocks, bring the N.E. point of St. Genevieve in one with Indian Point (a low wooded point of the main, forming the east point of Pillage Bay), bearing N. 85° W. Run in with this mark on, and you will leave the Bowen Rocks half a mile to the westward, and will pass them in between 20 and 30 fathoms, over a bottom of fine sand and coral. When the S.E. point of

St. Genevieve and the west Saint come in one, change your course a little to the northward, so as not to go too near a flat shoal, which extends nearly 300 fathoms from the east side of St. Genevieve. Give the N.E. point of St. Genevieve a berth of a cable's length, and passing as close to the shingly north point of that island as you please, bring up in 10 fathoms, mud bottom, half-way between the latter and Anchor Island, which will be seen lying close within the N.W. point of St. Genevieve.

If you wish to proceed to Betchewun Harbour instead of anchoring at St. Genevieve, pass to the northward of Anchor Island, which is quite bold on that side, and you will see the entrance of Betchewun (between the north point of Hunting Island and Partridge Point) bearing W. by N. Mount Partridge, on the N.E. side of the point of the same name, will be easily recognized, being a wooded and steep-sided hill, similar to, but much lower and smaller than Mount St. Genevieve. The north point of Hunting Island is also a clifly mound, with a cove on the east side of it. It is quite bold and you must pass close to it, to avoid the shoal off Partridge Point, which extends a full quarter of a mile to the southward, and diminishes the navigable breadth of the entrance to 350 fathoms. When in the entrance, you will see a low islet in the centre of the harbour; steer for it, and anchor with it bearing W. by N., and distant one-third of a mile. The depth of water in the harbour is from 9 to 13 fathoms, over-mud bottom.

The distance across from the N.E. point of St. Genevieve to the main is about a mile, but the navigable breadth of the entrance is reduced to half a mile, by the rocks and shoal water off Ledge Point, which is composed of numerous rocks of granite close together. The shoal water extends from Ledge Point directly across Pillage Bay, to Partridge Point, and you must not approach these shoals nearer than 7 fathoms. This east channel is the best with easterly winds, and may be used with moderate westerly winds during the flood tide, by vessels not too large to work in such narrow channels, but they must be careful in their boards to the northward, especially in that towards Ledge Point.

Saints Channel.—To enter St. Genevieve and Betchewun Harbours by the Saints Channel, observe the following directions:—Bring the west points of St. Genevieve and Anchor Islands in one, bearing North, at a distance of not less than 5 miles from the former, to be sure that you are outside of Collins Shoal. Run in upon this leading mark, until the north sides of the two Saints come in one, bearing E.S.E. $\frac{1}{2}$ E. The east sides of Mount Partridge and of Hunting Island (or rather of an island joined to it at low water) will come in one at the same time, bearing N.W. by N.; steer upon this last-named leading mark (to avoid a reef which extends 280 fathoms from the S.W. point of St. Genevieve), until the east side of Mount St. Genevieve, seen over the sandy S.E. point of Anchor Island, comes in one with the N.W. point of St. Genevieve Island, bearing N.N.E. $\frac{1}{2}$ E. Change your course now to north, which will take you in through the centre of the channel between St. Genevieve and Hunting Islands, and you may either proceed to St. Genevieve Harbour, round Anchor Island, giving its west end a berth of 2 cables' length, or to Betchewun Harbour along the N.E. side of Hunting Island, which is quite bold.

The directions just given for the Saints Channel will lead a ship in between the dangers off St. Genevieve and Hunting Islands, in not less than 20 fathoms water, and she will not have a less depth until she is in as far as Anchor Island. The breadth of the channel between the shoal water off the Saints, and the shoals off the S.E. point of Hunting Island, is a mile. It diminishes to half a mile between the reef off the S.W. point of St. Genevieve and the east end of Hunting Island, which is the narrowest part of the channel. Within this narrowest part, the ground becomes good for anchoring, as it is everywhere between St. Genevieve and Betchewun Harbours. Indeed no little sea comes in, that the whole space may be considered as a harbour capable of holding a great number of vessels of the largest class. Wood and water may be obtained, the latter from small streams, either on the main or on the islands.

There is an inner harbour at Betchewun, to the westward of the low islet which has been mentioned, but from thence there is no channel, excepting for boats, to pass out to the westward between Hunting Island and the main.

The tides between St. Genevieve and Hunting Islands; and the mainland, are much influenced by the winds; but their rates seldom amount to a knot at any time, and

are usually much less, excepting through the shallow and narrow channel at the west end of Betschewun Harbour, where there is at times a complete rapid.

CHARLES ISLAND, the next westward of Hunting Island, is 3 miles long, parallel to the coast, and $1\frac{1}{2}$ wide. It is about 200 feet high, bold, and free from shoals; but at the distance of three-quarters of a mile south from its east point, there is a patch of rocky ground on which no less than 5 fathoms has been found, but which had better be avoided by large vessels.

The east point of Charles Island bears N.W. by W., nearly $2\frac{1}{2}$ miles, from the west point of Gun Island. The former of these points is quite bold, and so is the latter to the N.W.; but to the S.W. it has a reef extending 200 fathoms. Between them is the entrance to Puffin Bay, which is open to southerly winds. Within the east point of Charles Island and half-way towards a shoal cove in this island, there is good anchorage in 7 fathoms, mud bottom, at the distance of 2 cables from the island; but the S.E. winds send in a considerable swell. In the N.E. corner of this bay is the narrow entrance (between shoals off Raggy Point and Hunting Island) to Raggy Bay, which has tolerable anchorage in its N.W. part, but has very deep water on the side towards Hunting Island, and is separated from the western part of Betschewun Harbour by the shoal and narrow channel for boats between the island and the main, before mentioned.

Charles Harbour, between the island and the main, though very narrow, is perfectly secure, and deep enough for vessels of any size, but its entrances are only 60 fathoms wide. Within, it expands to a quarter of a mile wide by three-quarters of a mile in length. Both entrances are 7 fathoms deep, but you must pass over 4 fathoms if you enter from the eastward through Puffin Bay. The depth within the harbour is from 4 to 6 $\frac{1}{2}$ fathoms, with mud bottom.

Strong winds occasionally cause the tides to run at the rate of 2 knots in the entrances of the harbour, but in general there is only a weak stream with either tide.

To enter this harbour from Puffin Bay, bring the N.E. point of Charles Island, which is high and cliffy, to bear N.W.; then steer for it, and give it a berth of 100 to 180 fathoms, as you haul round it to the westward into the harbour.

To enter from Trilobite Bay, give the N.W. point of Charles Island a berth of 60 to 140 fathoms, as you haul round it to S.E. by E. into the harbour. All the way from the eastern narrow entrance into Charles Harbour there is a broad zone of shoal water, which curves round parallel to the mainland till it joins Whale Island, and nearly fills up all the N.W. part of Trilobite Bay.

WHALE ISLAND, one quarter of a mile from the east side of Ammonite Point, and with shoal water between them, is distant 800 fathoms to the westward of Charles Island. Both islands are bold and cliffy, and Trilobite Bay is between them, with excellent anchorage, well sheltered from all but southerly winds. The only danger to be avoided when working into Trilobite Bay is a reef off Ammonite Point, which includes a small ialet, and extends half a mile off shore. The mark to clear this reef, when running along the coast, is to keep Gun Island open to the southward of Charles Island, and when hauling in from the westward, into Trilobite Bay, keep the north point of Charles Island well open to the southward of Whale Island.

Clear Water Point, about 2 miles westward of Ammonite Point, and $2\frac{1}{2}$ miles westward of Whale Island, is low, with shoal water extending about a quarter of a mile from it to the southward.

The coast forms a large bay between Points Clear Water and Esquimaux, along which there are high and conspicuous cliffs of sand and clay, that distinguish this part of the coast to a vessel at sea. The shoal water extends a considerable distance from the shore all round this bay, and opposite Sea Cow Island the 3-fathom mark is a mile out from the sandy beach.

Due west, and $1\frac{1}{2}$ miles from Clear Water Point, lies a rocky 3-fathom shoal; and there are three others, with 2 fathoms, lying to the northward of the first, and in a line from the point, towards Walrus Island: the outer or westernmost of them being rather more than 3 miles from the point.

The mark for the outermost of these shoals is the south side of the high land of Nipisica Island in one with the south point of Gull Island, bearing N.W. by W. $\frac{1}{2}$ W.; or the north point of Fright Island, on with the south side of Esquimaux Island, and open to the southward of Green Island, bearing N.W. by W. The leading mark for

passing outside these shoals, at the distance of half a mile, is the south point of Gull and Fright Islands in one, bearing N.W. by W.

WALRUS ISLAND lies 4 miles to the W.N.W. from Clear Water Point, and Sea Cow Island is close to the N.E. of it. The two islands together cover the space of $1\frac{1}{2}$ miles, in a N.E. direction, and are steep and precipitous, excepting to the southward, in which direction the reef off Sea Cow Island extends three-quarters of a mile, and that off Walrus Island, 300 fathoms.

There is a clear channel to the westward of these islands, and also between them and the Clear Water Shoals. This latter channel is $1\frac{1}{2}$ miles wide, and, although not the best, may be used in proceeding to Esquimaux Harbour from the eastward, by running upon the leading mark, which has been given for clearing the shoals to the westward of Clear Water Point, until the east sides of Esquimaux and Walrus Islands come in one. Then steer for the N.E. side of Sea Cow Island, and haul round it, at the distance of not less than 3 cables, to the north-westward for the east entrance of the harbour.

GREEN ISLAND, small, low, covered with grass, with reefs stretching north and south, 270 fathoms, but bold to the east and west, lies five-sixths of a mile W.N.W. from Walrus Island, and a third of a mile E.S.E. from Esquimaux Island.

GULL ISLAND lies a mile W. $\frac{1}{2}$ S. from Green Island, which it resembles, excepting that it is rather smaller. It is distant half a mile from the S.E. point of Esquimaux Island, but there is no passage for ships between them. The south point of Gull Island is bold, and may safely be passed at the distance of 2 cables.

ESQUIMAUX ISLAND, $2\frac{1}{2}$ miles long, and $1\frac{1}{2}$ miles wide, is 200 or 250 feet high towards its north side, sloping to the southward. From its S.W. point a shoal extends towards Fright Island, which also has a shoal stretching towards Esquimaux Island. The channel between these, leading north-eastward towards Esquimaux Harbour, is 380 fathoms wide, with extremely deep water, but as there are no leading marks for it, and the reefs on either side are extremely dangerous, it cannot be recommended.

FRIGHT ISLAND is nearly a mile from the west point of Esquimaux Island, and about half a mile long, in a N.E. direction; it is bold on the south and S.W., on which sides vessels may pass at a cable's length, but reefs extend off it to the east, N.E., and N.W., to the distance of 3 cables.

QUIN ISLAND lies within, or N.E. by N. from Fright Island, from which it is distant a short half mile: it is nearly $1\frac{1}{2}$ miles long, in a N.N.E. direction, and its shores are bold, with the exception of a broad reef running out half a mile to the W.N.W. from its north point.

There is a deep channel of two cables' width, between Quin Island and the reefs off Fright Island, named the Fright Channel. This channel may be used with a westerly wind for proceeding to Esquimaux Harbour, by hauling up to the east of Niapisca till the south end of Quin Island comes in one with the south side of the cove in Esquimaux islands, bearing E.S.E., then steering so as to pass close round the south point of Quin Island, which is quite bold, and thence E. by N., 2 miles, to the entrance of the harbour.

But the best channel from the westward towards Esquimaux Harbour is Quin Channel; it lies between Quin Island and the main, which, at Point aux Morts, is distant two-thirds of a mile to the N.N.E. from the north point of the island. The shoal water extends only a cable's length to the northward from the latter, but off Point aux Morts, and also off the small islets which lie rather more than a third of a mile to the W.N.W. from it, the reefs extend 200 fathoms to the southward, and the shoal water is continuous to the eastward, across the mouth of the wide bay, which is to the northward of the harbour, and between Point aux Morts and Esquimaux Point. The depth of water in Quin Channel is from 5 to $7\frac{1}{2}$ fathoms, with rocky, gravelly, or sandy bottom.

ESQUIMAUX HARBOUR lies between the north and N.E. points of the island of the same name, and between that island and the mainland. The island is 400 fathoms from Esquimaux Point, which bounds the N.E. part of the harbour. Esquimaux Point, having the entrance of a small river on its west side, consists of sand, and is quite bold to the S.W., although shoals extend from it across the bays on either side, as has been mentioned. The north and N.E. points of Esquimaux Island are also

boat, and may be passed at the distance of 70 fathoms by the largest ships. The depth within the harbour is from 5 to 15 fathoms, over a sandy bottom. The space in which vessels may anchor is nearly $\frac{1}{2}$ mile long, in a N.W. & W. direction, which is the bearing of the points of the island from each other, and the average breadth of the harbour 4 cables' length. There is therefore room for a great number of vessels, which, if they anchor well over towards the island (that is, within the line joining its north and N.E. points, and in not more than 11 fathoms water), will be sheltered from all winds. Supplies of good water may be procured from the river at Point Esquimaux, or from small streams on the island, and wood is plentiful.

Brief directions have been already given for Sea Cow, Fright, and Quin Channels, leading to this excellent harbour. For the best channels from the eastward and westward, observe the following directions:—

The best channel with easterly winds is the Walrus Channel, lying between Walrus and Green Islands. This channel is three-quarters of a mile wide, with 8 fathoms least water, and it is only necessary to give either island a berth of 300 fathoms to be clear of all dangers. Being 9 or 8 miles outside of these islands; bring the N.E. point of Esquimaux Island to appear about half-way between the two islands above mentioned as forming the channel, and it will bear about north. Steer for it, and giving it a berth of a cable's length, haul round it to the north-westward into the harbour, and anchor in the depth and position which has been recommended.

The best channel with westerly winds is to the westward of Fright and Quin Islands, between them and Niapiscia Island, and then between Quin Island and the main. The extent and position of the reefs off Fright and Quin Islands have been already given. Niapiscia Island, however, has reefs of flat limestone extending half a mile to the southward; and also a quarter of a mile to the eastward, from its S.E. and east points, between which a very remarkable group of flower-pot rocks will be seen standing on the limestone just above high-water mark. From its east point, which is the south point of a bay in the island, another reef runs out half a mile to the N.E. by E., but there is ample space between these reefs and Fright Island, the channel being over a mile wide in the narrowest part, and between 30 and 40 fathoms deep.

In running for this channel from the westward observe the following directions:—First, observe that the leading mark for clearing the south reef of Niapiscia Island by more than 2 cables' length, is the N.W. point of Fright Island in one with the south end of Quin Island: do not therefore open those islands clear of each other, until you have brought Monias Island (bearing N. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles from the nearest point of Niapiscia) in sight to the eastward of Niapiscia. Having done so, haul in through the channel, steering N.N.E. $\frac{1}{2}$ E., and when you open Montange Island (next westward of Monias) to the northward of Niapiscia, you will be clear of the N.E. by E. reef above mentioned. Haul up now, if necessary, to clear the reef, which projects half a mile W.N.W. from the north point of Quin Island, until you not only open the north point of Esquimaux Island to the northward of Quin Island, but also the north point of Sea Cow Island to the northward of Esquimaux Island. Run in between Quin Island and the main, with the last-named marks just open, bearing about S. 54° E., and they will lead you past the north point of Quin Island, at the distance of about 300 fathoms.

Take notice that the mark for the shoals off Point aux Morts, and the westward of it, is the north and N.E. points of Esquimaux Island in one with S.E. $\frac{1}{2}$ E.; if you open them before you are as far to the eastward as Quin Island will be ashore. Having passed Quin Island, continue your course towards the north point of Esquimaux Island; and haul round it to the south-eastward into the Harbour.

The tides usually run at the rate of about one knot through Esquimaux Harbour, the flood ebbing round Clear Water Point from the eastward, and passing to the westward between Quin Island and the main. The ebb flows in the contrary direction. The flood also runs in between Fright and Niapiscia Islands, and the ebb sets out through the same channel. But these streams are much influenced, both in their rate and duration, by the winds; and the ebb is much accelerated by westerly winds in Esquimaux Harbour, running there at times fully 2 knots.

NIAPISCIA ISLAND. The reef of which have been already mentioned, is rather more than 2 miles long, from north to south; it is partly covered with wood, and has three principal hills, not exceeding 300 feet in height.

QUARRY ISLAND, nearly $2\frac{1}{2}$ miles long, and about the same height as Niapiscia,

is separated from the latter by a channel 375 fathoms wide, with a small inlet in it, but no safe passage for shipping, because of shoals in the bay to the southward, and of a reef which stretches beyond the small inlet. Other reefs also run out one-third of a mile from the west side of Niapisca, and from the south side of Quarry Island.

Quarry Cove is on the north side, and two-thirds of a mile to the north-westward of the east end of the island. It is 280 fathoms wide, and about 400 deep, with 23 fathoms of water in the entrance, shoaling gradually to 4 fathoms, with mud bottom close to its head. The islands and shoals along the mainland are distant only 3 miles to the northward of this cove, which thus becomes a completely land-locked, though very small harbour. No other directions are requisite, than keeping the west side nearest on board in entering, and to anchor near the centre in 9 or 10 fathoms. Good water may be obtained from a small stream in the S.W. corner of the cove.

There is a clear channel, named Quarry Channel, between Quarry Island and Large Island, which runs to the next westward. This channel is 400 fathoms wide from island to island, in the narrowest part, where the shoal water off Large Island diminishes to 380 fathoms. The only directions necessary are to bring the channel to bear N.N.E.; then run in keeping in its centre until two-thirds of a mile within the S.W. point of Quarry Island, after which you may keep that island close on board, as the remainder of the channel, $1\frac{1}{2}$ miles, is quite bold on that side, while the shoal water extends 150 fathoms from Large Island. The flood runs slowly in through this channel, and the ebb as slowly out.

LARGE ISLAND is of an oval shape, the longest diameter from north to south being 4 miles; it is rather more than 11 miles in circumference, thickly-wooded, and in its highest part estimated at 300 feet above the sea. Reefs of flat limestone extend off its south and S.W. points to the distance of nearly three-quarters of a mile, and the mark for the south point of these reefs, in 2 fathoms, is the south points of Niapisca and Fright Islands in one. On its west side, a mile to the northward of its S.W. point, there are many flower-pot and arched rocks, standing on the flat limestone above the present high-water mark.

The Middle Reef lies just within the line joining the south points of Large and Mingan Islands, and 2 miles westward of the former. A part of this reef is always above water, but it is not 30 fathoms in diameter, though the shoal around it is half a mile long in a N.E. by N. direction, and one-third of a mile wide. The mark for the east side of this reef, in 4 fathoms, is the east sides of the two Birch Islands in one.

The navigable passage between this reef and Large Island named the Large Channel, is $1\frac{1}{2}$ miles wide, and has a depth of 54 fathoms. This is the channel that should be used by a vessel proceeding to Mingan Harbour with an easterly wind, and in doing so the only thing necessary to be observed is, that the reefs extend to the westward off the shore of Large Island, from 3 to 2 cables' length, as far in as the Flower-pot Columns, after which the island becomes bold. There is little or no warning by the lead on the Large Island side, but the Middle Reef may be approached to 12 fathoms, which, on the east side, is more than half a mile from it. Farther in, the Birch Islands form the west side of this channel, at the distance of nearly 2 miles from Large Island; the east side of the Outer Birch is quite bold, and the shoal water extends only 150 fathoms off the east end of the Inner Birch Island.

The OUTER AND INNER BIRCH ISLANDS lie to the northward of the Middle Reef, and in a line from it towards the west side of Harbour Island. The channel between the Outer Birch Island and the Middle Reef is almost a mile wide and 30 fathoms deep, and the shoal water extends only 150 fathoms from the south point of the former. But there is a very dangerous reef off the west side of the Outer Birch Island, extending 350 fathoms from the shore. The channel between the two Birch Islands is 800 fathoms wide, but the ground is all foul, and not more than 24 fathoms could be carried through by a stranger. The Outer Birch Island is about a mile in diameter, and about 300 feet in height, and it has a remarkable flower-pot rock on its S.W. point. The Inner Birch Island is rather larger; its N.W. point is long and low, extending half a mile to the westward from the body of the island, with a curve to the S.W.; off this point there is a reef running out half a mile to the westward, and having 12 fathoms within a cable's length of its edge.

Half a mile to the S.W. of the same point, there is a small low islet, close to the south point of which stands a very remarkable rock, named the Hulk Rock, from its resemblance to the bulk of a wrecked vessel. The reef of flat limestone, dry at low

water, which connects this inlet and rock to the low west point of the Inner Birch Island, extends 300 fathoms off the rock to the S.W., and also 300 fathoms to the westward. The flood tide sets out to the S.W. between the Birch Islands, and also between them and the Middle Reef.

Between the Birch Islands and Mingan Island is Birch Channel, which is the best by which to proceed to Mingan Harbour with westerly winds. It is 3 miles wide, and all deep water.

MINGAN ISLAND, $2\frac{1}{2}$ miles to the westward of the Inner Birch Island, is nearly 2 miles long, in a N.N.E. direction; and, including two small islets close to its west side, nearly a mile broad. It is about 100 feet in height, and bare of trees. The shoal water does not extend above 300 fathoms off its south point; but to the S.W. and west the reefs, including the islets, run out nearly 600 fathoms. The island is bold on its north and east sides.

To the S.W. $\frac{1}{2}$ S., $3\frac{1}{2}$ miles from the south point of Mingan Island, and with the south point of the Outer Birch on with the north point of Large Island, lies the Mingan Patch, which consists of rocky ground of 9 fathoms least water, yet there is a very heavy swell on it at times. There are 22 fathoms of water between it and the island.

The **PERROQUETS**, the westernmost of the Mingan Islands, are four small islets, low, and bare of trees. The north-westernmost is higher than the others, surrounded with cliffs, and has a superstratum of peat on its flat summit, in which great numbers of puffins burrow and rear their young. The two easternmost of these islets are distant 2 miles N.W. by W. from the centre of Mingan Island, and have a reef of flat limestone extending off them three-quarters of a mile to the S.S.W. There is also a shoal to the northward of them one-third of a mile, and a narrow channel between them and the other two, but of no use to vessels. The north-westernmost islet has shoal water off it to the distance of a quarter of a mile, both to the eastward and westward, but a vessel may pass to the northward of it, at the distances of 200 fathoms, in 14 or 15 fathoms of water. The Perroquet Channel, between these islets and Mingan Island, is $1\frac{1}{2}$ miles wide, and has a depth in mid-channel, varying from 30 to 40 fathoms. Both the flood and ebb set out through the channel, the former to the S.W., and the latter to the southward.

All the islands above described, from Niapiscia Island to the Perroquets, inclusive, are bold, and free from danger on their north sides, so that Mingan Channel, which lies between them and the main, is safe throughout. Moniac Island, lying on the mainland side of this channel, is less than half a mile in diameter, and stands nearly opposite Niapiscia Island, from which it is distant about $2\frac{1}{2}$ miles.

MOUTANGE ISLAND, $1\frac{1}{2}$ miles westward of Moniac, is about $1\frac{1}{2}$ miles in diameter, and situated off a bay full of little islets, and in which there are several small rivers. Moutange is directly opposite Quarry Island, at the distance of $3\frac{1}{2}$ miles. These islands, Moniac and Moutange, are distant three-quarters of a mile from the nearest point of the main, but the shoals within and between them are nearly dry at low water. The shoals do not project above 3 cables' length off to the southward of Moniac and Moutange Islands, but there is rocky ground, with irregular soundings between 4 and 10 fathoms, out to the distance of a mile to the southward of them both; so that a vessel beating in the Mingan Channel had better not stand over to the northward beyond $1\frac{1}{2}$ miles from the northern shores of the outer islands, or into less than 10 fathoms.

Sand Lark Reef, $3\frac{1}{2}$ miles N.W. by W. of Moutange Island, $2\frac{1}{2}$ miles E.S.E. from Mingan Harbour Island, and rather more than a mile from the mainland, is small and low, but always above water. The shoal water does not extend off it above a cable's length, and there is a clear channel with deep water on all sides of it; but there is a rocky patch, with 5 fathoms of water, $1\frac{1}{2}$ miles from it, on a line towards the south side of Moutange Island. This shoal water has not been closely examined, and should therefore be avoided.

Between the Inner Birch Island and Harbour Island, the Mingan Channel is $1\frac{1}{2}$ miles wide, with rocky and irregular soundings, between 7 and 20 fathoms. The deepest water is over towards Birch Island, where the bottom is generally of sand, gravel, and shells.

Between the Perroquets and Long Point, and also between Mingan Island and the latter, the Mingan Channel is $2\frac{1}{2}$ miles wide, and free from all danger, excepting a sandy shoal extending off the shore, immediately to the westward of Long Point, to

within a mile of the Perroquets. There is often a great ripple off this shoal, caused by the flood tide being turned off by Long Point toward the S.W. This channel may be conveniently used, in going to Mingan Harbour with a northerly wind.

Long Point consists of sand, and there is a fine beach from thence to the eastward, as far as Mingan Harbour inclusive.

MINGAN HARBOUR is the narrow but well-sheltered space between Harbour Island and the mainland; the latter is low, and has a fine sandy beach, while the island is of limestone, about 100 feet in height, thickly-wooded, precipitous and bold towards the harbour, but shelving and shoal to the southward to the distance of a quarter of a mile from the shore. The length of the island is 2 miles, and its greatest breadth does not amount to half a mile.

The reefs off the east and west ends of the island, and which are the principal things to guard against in entering the harbour, extend 240 fathoms out from the high-water mark.

The mainland recedes from the island in the eastern part of the harbour, which would, in consequence, be exposed to easterly winds, if it were not for a sandy shoal, dry at low water, which extends 700 fathoms out from the entrance of the Mingan River. This river is only capable of admitting boats at high water, and its mouth is opposite the east end of the island. The eastern entrance of the harbour, between the above sandy shoal and the island, is 300 fathoms wide, the western entrance between the mainland and the island is 170 fathoms wide, the whole breadth in both entrances being in deep water. The space within, in which vessels may anchor in safety, is about a mile long by 270 fathoms wide, with plenty of water for the largest ships, over a bottom of fine sand.

Although these entrances are so narrow, there is little difficulty in taking a vessel in of the size of a sloop of war, and large frigates have occasionally visited the harbour.

To enter Mingan Harbour, observe the following directions:—In approaching it from the eastward, bring the north or inner side of Harbour Island to bear N.W., and the houses of the Hudson Bay Company's post ought then to appear open fully their own breadth to the northward of the island. Steer for those houses so open, leaving the east end of the island 150 fathoms to the southward, or on your left, and taking care to keep the south side of the sandy point of the main, which forms the western entrance of the harbour, shut in behind the north side of the island; for when they are in one, you will be on shore on the sandy shoal off Mingan River. After you have passed the east end of the island, run along its north side at the distance of a cable, and choose your berth anywhere near the centre of the harbour, in from 9 to 13 fathoms, sand bottom.

When running for the harbour from the westward, run in towards the sandy beach of the mainland at the distance of three-quarters of a mile to the westward of the island, until the sandy point of the mainland, which forms the west end of the harbour, comes in one with the face of the clay cliffs, to the eastward of the Hudson Bay Company's houses, bearing E. by S., or until you are in 11 fathoms water. Run upon this mark, or course, along the beach, and give the above sandy point of the mainland a berth of half a cable, as you pass into the harbour, and choose your berth as before directed.

Mingan Harbour is perfectly secure in all winds, and, like Esquimaux Harbour; it has this great advantage, that vessels can enter or leave it either with easterly or westerly winds.

From Long Point, a broad beach of fine sand reaches to the River St. John; outside of which shoal water extends to the distance of three-quarters of a mile.

THE WEST AND SOUTH COASTS OF THE GULF.

CAPE GASPE TO POINT ESCUMINAC.

CAPE GASPE is a remarkable headland, of limestone, having on its N.E. side a range of cliffs, which rise from the sea to the height of 693 feet. Off the south-east

extremity of the cape there was till recently a very remarkable white rock, named the Flower-pot Rock, Ship's Head, or Old Woman. The base of this rock had been worn so much by the action of the sea, as at last to cause its fall into deep water.

Off Cape Gaspé there are several rocky patches, frequented by the fishermen. They all lie in the same direction from Flower-pot Rock, S.S.E. $\frac{1}{2}$ E. The first is a small patch with 8 fathoms least water, the second has 16 fathoms, and the third 10 fathoms. Their distances from the rock are seven-eighths, $1\frac{1}{2}$, and 18 miles respectively. There is deep water and irregular soundings between them, and the last-mentioned is on the bank of soundings lying off this coast.

At the distance of $7\frac{1}{2}$ miles, S.S.W. $\frac{1}{2}$ W. from Cape Gaspé, is situated Point Peter, forming the N.E. point of Mal Bay, and the south point of Gaspé Bay. It is of low sand-stone, and thickly covered with the white houses of the fishermen.

Flat Island lies about 400 fathoms off Point Peter, and is small, low, and of sand-stone. Between the island and the point there is a clear channel, but no good anchorage: for although vessels occasionally anchor to the northward of the island, yet the ground is so foul, that there is great danger of losing an anchor from its hooking the rocks. From Flat Island to Cape Gaspé, across the mouth of Gaspé Bay, the course is N.N.E. $7\frac{1}{2}$ miles.

GASPÉ BAY possesses advantages which may hereafter render it one of the most important places, in a maritime point of view, in these seas. It contains an excellent outer roadstead, off Douglas Town; a harbour at its head, capable of holding a numerous fleet in perfect safety; and a basin where the largest ships might be hove down and refitted. The course up the bay, from Flat Island to the end of Sandy-beach Point, which forms the harbour, is N. by W. $\frac{1}{2}$ W. rather more than 16 miles. From Point Peter the land rises in undulations to the chain of mountains about 5 miles inland from the south-western shore of the bay. The south-western shore of Gaspé Bay, from Point Peter to Douglas Town, a distance of 12 miles, presents a succession of precipitous headlands. Shal water extends nearly a third of a mile from the cliffs, and vessels beating should beware of this, since the water shoals too rapidly to allow of much warning by the lead.

In the N.E. side of the bay there is an anchorage, with good holding ground; but in not less than 17 fathoms, except within a quarter of a mile of the shore, abreast of St. George Cove, Grand Grève, and Little Gaspé. This side is bold, and free from danger in every part with the exception of the Seal Rocks, which are the only detached dangers in the bay.

The Seal Rocks are $6\frac{1}{2}$ miles within Cape Gaspé, one mile S.E. by S. from Cape Brulé, and half a mile off shore. The length of this reef, from 3 fathoms to 8 fathoms, and in a direction parallel to the shore, is half a mile; and its breadth a quarter of a mile. The least water is 4 feet, and there are 8 to $8\frac{1}{2}$ fathoms between it and the shore. When on the outer edge of the Seal Rocks, Cape Brulé is in one with the next cliffy point up the bay, bearing N. 85° W. by compass, and this only mark is sufficient for the safety of vessels beating, for the rocks are out of the way with fair winds.

Douglas Town is a village of fishermen and farmers, standing on the rising ground at the south side of the entrance of the River St. John. The roadstead of the town is extensive, and vessels may anchor in any part of it, and in any depth from 11 to 6 fathoms, over sand and clay bottom; although the best berth is in 7 fathoms, with the entrance of the River St. John bearing N.W., by W. $1\frac{1}{2}$ miles. The course and distance from Cape Gaspé to this anchorage is N.W. by W. $7\frac{1}{2}$ miles. There is, however, no shelter from winds between S.E. by E. and S.S.E., which blows directly into the bay, and roll in a heavy swell. The riding is, nevertheless, much less heavy on such occasions than might be expected; and, as the ground is excellent for holding, a vessel may safely anchor here during the summer months. Water may be obtained by ascending the River St. John to the islands, a distance of 2 miles. In the spring of the year, there are often 9 feet of water in the entrance of this river, which is between two points of sand; and there are 12 feet of water in the narrow channel for some distance within. At the islands the river becomes shallow and rapid. Two miles northward of Douglas is Cape Haldimand, a bluff point of cliff, and the south-eastern termination of the range of hills which separates the harbour, basin, and S.W. arm, from the valley of the river St. John.

GASPÉ HARBOUR.—From the N.E. side of Cape Haldimand, Sandy-beach

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Point runs out to the northward, and forms the Harbour of Gaspé. It is a very low and narrow point of sand, convex to seaward, on which side the water deepens gradually from high-water mark to the depth of 3 fathoms, a distance of nearly half a mile: on the inside it is as bold as a wall. Thus this spit, apparently so fragile, becomes a natural dam or breakwater, upon which the heavy swell, which often rolls into the bay, can produce no effect, expending its strength in the shoal water before reaching the beach. The water deepens immediately outside of 3 fathoms, all along the outside of Sandy-beach Point, and also off its north extremity; so that it is both dangerous and difficult to beat in or out of the harbour at night; the lead giving little or no warning.

To the northward of Sandy-beach Point, at the distance of nearly a mile, is a low sandy peninsula, covered with spruce-trees, and with several whale-sheds near its west point. Between the shoal water in the bay to the south-eastward of the peninsula, and that which extends from the extremity of Sandy-beach Point, is the narrowest part of the entrance to the harbour, which is 420 fathoms wide and upwards of 11 fathoms deep in mid-channel.

To run into the Harbour of Gaspé, attend to the following directions and remarks:—On the N.E. side of the N.W. arm there is a wooded point with low clay cliff, $\frac{1}{2}$ miles above the peninsula. This point appears as if it were the extreme on that side, when seen over the end of the peninsula from a vessel approaching the entrance of the harbour, and is named Point Panard. Now this point (seen over the peninsula) in one with the inner or north side of the whale-sheds before-mentioned, is the mark for the northern extreme of the shoal off Sandy-beach Point. The extremity of the spruce-trees is as far within the whale-sheds as these last are from the sandy extremity of the peninsula. On the inner side of Sandy-beach Point, and near to its junction with the mainland, stands a wooden windmill. Keep Point Panard in one with that extremity of the spruce-trees on the peninsula, bearing N. 47° W., until the windmill, just mentioned, comes in one with the west or inner side of the end of Sandy-beach Point, bearing S. $\frac{1}{2}$ W., when you may haul into the anchorage under the point, or steer for the basin. When beating in, tack by the lead from the N.E. side of the bay, and in the board towards Sandy-beach Point, put the helm down the instant the marks for leading in, just given, come in one.

At night, when neither Sandy-beach Point nor the peninsula can be seen, it becomes rather a difficult affair to take a vessel into the harbour. The only guide then is the lead: soundings should be first struck on the N.E. side of the bay, about two miles outside of the entrance of the harbour, and the edge of the shoal water on that side should be followed, in from 5 to 7 fathoms, until you judge, by the distance run, and the change which takes place in the direction of the edge of the bank which you are running upon, that you are approaching the peninsula and have passed Sandy-beach Point, and can in consequence venture to haul to the southward into the anchorage. To form this judgment accurately is the difficult part of the process, and as a failure in this would probably cause the loss of the vessel, if the usual heavy swell should be rolling into the bay with S.E. winds, Captain Bayfield recommends a vessel rather to trust to her anchors off Douglas Town than to make the attempt. In the case of a vessel losing her anchors, the directions which have been given may prove of use. Within Sandy-beach Point, the shelter is complete from all winds; the bottom is mud, and the depth nowhere exceeds 11 $\frac{1}{2}$ fathoms.

Capt. Bayfield says:—"There are regular but weak streams of flood and ebb in the entrances of the harbour and basin. In the bay the streams of the tides are irregular, and are usually almost imperceptible, excepting near the shores, and even there they are so weak as to be of little or no consequence to a vessel.

The current down the St. Lawrence runs strongly past Flower-pot Rock over towards Flat Island, especially in the ebb tide, which often increases its rate to 2 knots, and this should be remembered by vessels making the bay with a northerly wind. This current, when it meets the swell which so often prevails from the south and S.E., causes a high, short, and breaking sea, all along the coast from above Cape Rozier to Cape Gaspé, and extending across the entrance of Gaspé Bay. When the wind is light, a vessel becomes quite unmanageable in this sea, and it is extremely dangerous to be caught in it, close to the shore, by a light breeze on the land.

In fine summer weather there is often a sea-breeze blowing right up the bay from

about 9 A.M. until sunset. At such times there is generally a light land-breeze at night down the arms, which often extends for several miles out into the bay. In the outer part of the bay, however, it will generally be found to be calm, even at times when a fresh breeze is blowing outside Cape Gaspé and Point Peter. The wind at sea on such occasions is generally from the S.W."

MAL BAY.—Point Peter, as before mentioned, is the N.E. point of Mal Bay. This bay is between 5 and 6 miles wide, by 4 miles deep, and entirely open to the S.E. A fine broad sandy beach extends right across the head of the bay and incloses a shallow lagoon, into which a considerable river and several small streams discharge their waters; this lagoon has an outlet, named the Tickle, in the N.W. corner of the bay, admitting boats at high water and in fine weather. There is anchorage all round the shores of Mal Bay, but as a heavy sea and thick fog often precedes a S.E. gale, and render it difficult for a vessel to beat out, it cannot be recommended. There is an open cove or small bay on the N.E. side, in which a vessel can be occasionally moored close to the shore; and in 8 fathoms water.

From Point Peter to Cape Despair the distance is $13\frac{1}{2}$ miles, and between lies the Island of Bonaventure, having bold and perpendicular cliffs on all sides except the west, from which side shoal water extends to the distance of a quarter of a mile. There is anchorage in 15 fathoms between the island and White Head; but the riding is insecure and heavy in consequence of the swell, which, in bad weather, rolls round the island. Between Bonaventure Island and the Percé Rock to the north-westward, the channel is about $1\frac{1}{2}$ miles wide and free from danger.

Within Bonaventure Island, and close to the main, to which it is joined by a reef, nearly dry at low water, is the Percé Rock, so named from having two large holes in it, one so large as to admit the passage of boats at high water. It is so precipitous as to be nearly inaccessible, and 288 feet high, and at a distance appears like a citadel. A reef runs out from the shore to the southward of the rock, about half a mile, on either side of which small vessels occasionally anchor.

The town of Percé, behind the perforated rock, is inhabited principally by the fishermen, who have an excellent beach to dry their fish on. At the back of the town is the Mont Percé or Table Roulante, 1230 feet above the sea, from which it rises abruptly on the north side, where the precipices of red sandstone and limestone, 666 feet high, are washed by the waves. At one mile to the southward of Percé town is White Head, off which are 8 to 12 fathoms.

CHALEUR BAY.—The N.E. point of the Bay of Chaleur, named Cape Despair, is of a moderate height, and has at rather more than $1\frac{1}{2}$ miles S.S.E. from it, the Leander Shoal, which is rocky, but with a clear passage between it and the cape. It is about a quarter of a mile in diameter, and has 16 feet least water on one spot, which, however, it is difficult to find. The line of the White Head, in one with the inner or N.W. end of Percé Rock, passes just outside of the shoal, in 7 fathoms; therefore the whole of Percé Rock, well open to the eastward of the White Head, will lead clear outside of all. From a half to the whole of the Percé Rock, shut in behind the White Head, will lead between the Leander Shoal and Cape Despair.

Chaleur Bay is 25 miles wide at the entrance, between Cape Despair and the north part of Miscon Island, with a depth in mid-channel of about 40 fathoms. It is in general easy of navigation, a frequent use of the lead giving good warning of an approach to the shoals. The tides are regular, and have but little velocity, excepting at the entrance, where they are so irregular that but small dependence can be placed on them. Inside the bay the dense fogs so prevalent in the Gulf are seldom met with; the climate is also much milder.

The North Shore.—From Cape Despair the coast trends to the westward 7 miles to Grand River, with its shallow bar, outside of which to the westward there is a shoal running half a mile from the coast. Beyond this, at the distance of 4 miles, is Little Pabou, and at about the same distance farther to the westward is Grand Pabou, both of which are small fishing-places. At $8\frac{1}{2}$ miles farther is another small fishing-place named Newport, off which small vessels occasionally anchor under shelter of a shoal. To the south-west of this place, distant 6 miles, is Point Maquereau, bold-to and dark coloured, rising to the height of 900 feet, and covered with trees at the top; outside the point are 40 to 50 fathoms.

A few miles to the westward of Point Maquereau is an extensive bay named Port Daniel, where supplies both of wood and water can be obtained. At the head of the

bay is the outlet of a small river, near which are the houses of the fishermen. The west point of the bay has a detached rock off it. Port Daniel is exposed to the S.E., and winds from that quarter roll in a heavy swell. This port may be easily recognized by a high hill, one mile to the westward of the harbour, the summit of which is 400 feet above the sea; it is the highest land on this part of the coast, and often appears like an island.

From Port Daniel the coast runs 9 miles to Nouvelle River, a place of no moment, and $\frac{1}{4}$ miles from this is Paspébiac, off which is an excellent roadstead. The point is low, being composed of sand and shingle, and incloses a small lagoon. The town is considerable, although straggling along the coast; and there is an English and Roman Catholic Church. On the west side of the point are a number of fishing-huts, and the extensive white buildings belonging to the fishing-establishment of Messrs. Robins and Co., of Jersey; on this side of the point is also the roadstead, in which vessels lie sheltered from S.E., round north, to West, although open to southerly winds. Jersey vessels lie moored here all the season, on excellent holding-ground. A sandy spit runs out south-westward, nearly half a mile from the point, and affords some shelter to the roadstead. The best berth to anchor is in 6 fathoms, clay, with the sandy point S.E., and Robins' flagstaff East.

In rounding Paspébiac Point from the eastward, keep Daniel Hill open to the southward of Nouvelle Point until the Roman Catholic Church opens to the westward of the south end of the sandy spit N. by E. $\frac{1}{4}$ E.; keep the lead going, and steer towards Carliisle Point, until Robins' flagstaff (at his northernmost large white store) and the above-mentioned church come in one N.E. $\frac{1}{4}$ N.; when you may haul in for the anchorage by your lead, taking care to give the spit a berth in going in.

Carliisle Town is $\frac{3}{4}$ miles to the westward of Paspébiac, and is rendered conspicuous by the jail and court-house, which can be seen from the anchorage. The point is covered with wood, and assists in sheltering the roadstead of Paspébiac from the westward.

Five miles to the westward of Carliisle is Bonaventure Point, formed by a low red sandstone cliff, off which a rocky shoal extends to the westward fully a mile, and continues along the coast to Red Point, a distance of about 8 miles. Here vessels may anchor, sheltered from the eastward, riding in 6 or 7 fathoms, with the point bearing S.E. $\frac{1}{4}$ S., the church N.E. $\frac{1}{4}$ E., and the entrance of the river E. $\frac{1}{4}$ N., $1\frac{1}{2}$ miles. From the extremity of the point the coast trends to the northward 2 or 3 miles to the river of the same name, which is too shallow to be of any use to navigation; and 10 miles farther is another small stream named the Caplin, off the entrance to which there is a reef.

From hence the coast runs to the northward 10 miles, and then trends to the south-westward a similar distance to Carleton, forming the bay of Cascapédia. At the head of this bay is a stream, available only for boats in consequence of the flats which extend out 2 miles from the entrance; to the eastward of this is the village of Richmond, having anchorage before it, in 8 fathoms, with the church bearing N.E. $\frac{1}{4}$ E., and Black Point, the east point of the bay, S.E. $\frac{1}{4}$ S.; but you may anchor farther out in 5 or 6 fathoms, although not so well sheltered. When approaching Richmond from the eastward, in order to avoid the shoal that stretches off to the westward $1\frac{1}{2}$ miles from Indian Point, keep Red Point well open of Black Point S.E. $\frac{1}{4}$ E., and approach no nearer than 4 or 5 fathoms, until the church bears N.E. by E., when you may steer for it, and anchor as before.

On the western side of the bay are extensive settlements, at the back of which are some lofty hills, conspicuous at a great distance, the highest of which, Mount Carleton, is estimated to be 1880 feet high.

Tracadigash or Carleton Point, the west point of Cascapédia Bay, is low and incloses a shallow lagoon, which admits small craft at high water. On the north side of this lagoon is the village of Carleton, behind which are the Carleton Mountains. Off the point a spit runs half a mile, which can be cleared by keeping in 10 or 9 fathoms, or by bringing Mount Dalhousie just open of Point Magnucha, bearing about W.N.W. $\frac{1}{4}$ W. To the westward of this spit there is good anchorage in 5 $\frac{1}{2}$ fathoms, mud, with the point bearing S. by E. $\frac{1}{4}$ E.; Carleton Church E. by S.; and the watering place N. by W. $\frac{1}{4}$ W.: here you will lie, little affected by the tides.

From Carleton Point the coast trends round to the westward 7 miles to Magnucha Point, which is composed of red sandstone cliffs, and has a reef running off it about a

CAPE GASPE TO POINT ESCUMINAC.

mile to the westward. Between, in the northern corner of the bay formed by the two headlands, is an extensive lagoon, nearly dry at low water, into which the New River falls. Outside this basin the water deepens to 2½ fathoms at the distance of a mile. Maguacha Point forms the northern, and Dalhousie Point the southern side of the entrance to the River Ristigouche, which is a broad estuary running some miles into the country.

DALHOUSIE HARBOUR is frequented principally by vessels loading with timber. Off the town is a high and rocky but well wooded island, 2 cables in length, named Dalhousie Island, which is connected to the shore by a shoal drying at low water; and to the westward of this, at a short distance, there is another islet, also connected to the shore by a sandy spit. Between these islets a sandy strand joins the shore, and it is along the edge of this that the vessels anchor in 6 and 8 fathoms perfectly secure from all winds.

Off the island, on the north side of the harbour, is the Middle Ground, having 6 feet least water on it. Its eastern side is very steep, and a buoy marks its north-eastern extremity. The channel between this part of the Middle Ground and the Canadian shore to the north-eastward, is about three-quarters of a mile wide, with a depth of 12 to 15 fathoms; here the tide runs about 2 knots. The harbour of Dalhousie is very much sheltered from the northward by this shoal.

When making Dalhousie you may do so either from the eastward between the island and the Middle Ground, or by running round to the northward of that shoal, enter it from the north-westward. In this latter course there is much more room, but you have to cross a flat of 3 fathoms water; the other passage is 1½ cable's length wide, with a depth of 8 fathoms, and is quite safe.

To run for the harbour, and being 6 miles south from Carls Point, steer N.W. by W., 34 miles, which will bring you midway between the east point of Heron Island and Tracadigash Point; in this run you will shoalen your water from 35 to 10 and 12 fathoms. Off Heron Island a bank runs out some distance, which you may clear by bringing the highest summit of the Scaumenc Mountains open north of Dalhousie Island; and you may also clear the spit running from Tracadigash Point by bringing Mount Dalhousie just open of Point Maguacha, bearing about W.N.W. ½ W. From this position (midway between Heron Island and Tracadigash Point) steer about W.N.W. towards Dalhousie Mountain, and when near Maguacha Point avoid the reef running from it, by bringing the highest part of the Scaumenc Mountains open to the south-west of Dalhousie Island; continue sailing on this mark until you get into 9 or 8 fathoms, when the Bonami Rocks will bear about S.W., distant half a mile. Haul now to the northward, keeping in the same depth of water, until Lalime Point, the western point of New Brunswick, comes just open north of Dalhousie Island and the islets and rocks westward of it, and bearing about W. by N. Steer with this mark on, and enter the harbour, being careful not to approach the island nearer than 60 or 100 fathoms; when in the harbour you may anchor in 5 or 6 fathoms.

To enter the harbour by the western and more roomy passage, instead of steering W. by N. for Point Lalime, steer to the N.E. until you get into 8 fathoms on the Canadian shore, in which depth you must continue to work to the westward until Dalhousie Church bears S.W. by S., when it will open to the westward of the island. Then steer to the westward directly up the estuary, until the church bears S. by W., when you must steer for it, taking care not to bring it to the westward of that bearing, and crossing a 3-fathom flat, you will enter the harbour, where you may anchor as before.

RIVER RISTIGOUCHE.—From Dalhousie the river runs up about 12 miles to Campbelltown, and is navigable for large vessels to within 4 miles of that place, when the channel becomes both narrow and intricate. At its entrance, just opposite Dalhousie, is Fleurant Point, off which is a very convenient anchorage, in 6 or 7 fathoms, for vessels visiting the river for supplies of wood or water: it is easy of access and affords facilities for getting under weigh, in all winds and at all times of tide. Half a mile westward of the point is a brook of excellent water, and a little farther westward is a dangerous reef named the Mussel Bank, which extends nearly half-way across the river.

Campbelltown is situated at the foot of a lofty hill named the Sugar Loaf, estimated to be 950 feet high. Here it is high water at 4h., with a rise at spring tides of 9 or 10 feet, and at neaps of 7 feet water. When the tide is up vessels

drawing about 20 feet water can ascend the river as far as the town, off which they may lie afloat at low water. Small craft may ascend still farther up.

The South Shore.—From Dalhousie the coast runs to the eastward about $1\frac{1}{2}$ miles to Bonami Point, off which are some high steep rocks, with no passage between them and the shore. Hence to the small River Carlo the distance is $4\frac{1}{2}$ miles, with a shallow lagoon, about half-way between, named the Eel River; and three miles farther is Heron Island, which is 4 miles long and of moderate height. Between the island and the shore there is a channel of 3 to 5 fathoms at low water, in which is good anchorage, but it is narrow and contracted by the shoal water on either side; near the eastern part of the channel, and directly in the middle, is the Heron Rock, a danger of only 6 feet water, with 4 to 5 fathoms all round it. It is recommended always to take a pilot as the navigation is very intricate.

Three miles from Heron Island is the entrance of the River Nash, resorted to by vessels for timber, which moor outside in 4 fathoms, muddy bottom, with the east point of Heron Island bearing N. by W., $2\frac{1}{2}$ miles, and Black Point N.W. one mile. In this position they are much exposed to easterly winds, but the ground being good, they are enabled to ride in safety during the summer months. About $3\frac{1}{2}$ miles S.E. from Heron Island and $1\frac{1}{2}$ miles off shore, there is a rocky ledge upon which not less than 4 fathoms was found, yet there may be less water. From hence to Belledune Point the distance is about 9 miles, when the coast turns to the southward, a distance of 16 miles, to the entrance of Bathurst Harbour, at the head of Nipisiguit Bay; in this last distance the only objects of particular remark are the church and village of Robette situated about half-way. The whole of this coast is low and moderately clear, and may be approached by the lead, but a large vessel is recommended not to get into a less depth than 10 fathoms.

BATHURST HARBOUR is about 2 cables' length in width, between Carron and Alston Points, which are of sand, with stores and other buildings upon them. There are two beacons on Carron Point, on the S.E. side, which, when kept in one, bearing S.W. $\frac{1}{4}$ S., lead in through the narrow channel over the bar, in 7 feet at low water, and 14 at high water, spring-tides. From 3 fathoms outside the bar to the entrance of the river is $1\frac{1}{2}$ miles, very narrow the whole distance, and between sandy shoals, nearly dry at low water. Between the sandy points, or just outside in 3 or 4 fathoms, vessels generally moor to take in timber. It is high water at Bathurst Harbour at 3h. 15m.; spring-tides rise 7 feet, neaps 4.

The Town of Bathurst is well situated $2\frac{1}{2}$ miles within the entrance, and at the head of the basin. A depth of 14 feet at high water can be carried up to the wharves of the town, and vessels may lie in 14 feet at low water, in some parts of the channel; here the tide runs from 1½ to 2 knots, and sets fairly in and out over the bar, which should never be crossed without a pilot; they are always on the look-out for vessels. The bar bears from Paspebiac Point, on the Canadian shore, S.W. by W. $\frac{1}{4}$ W., distant 8 leagues.

Some few vessels load inside the bar, but the usual place of anchorage is just outside in 6 or 7 fathoms, muddy bottom, where there is safe riding in the summer months, but exposed to N.E. gales, which are attended with a heavy sea.

From Bathurst Harbour the coast runs to the north-eastward to Point Mixzenette, a distance of 29 miles, and is clear, with the exception of a 3-fathom shoal, three-quarters of a mile from the shore, about 9 miles from Bathurst; it may in general be approached to the depth of 10 fathoms, which is near enough in the night-time. Eastward of Mixzenette Point the shoal water extends half a mile out.

CARAQUETTE HARBOUR.—After passing Mixzenette Point the coast line falls back and is bordered by several islands and dangerous shoals, within which there is an excellent harbour affording safe anchorage in from 4 to $2\frac{1}{2}$ fathoms.

Nearly 3 miles E.S.E. of Point Mixzenette is Carquette Island, which is low and wooded, and $1\frac{1}{2}$ miles long in a direction nearly parallel to the coast. Sandy points extend from both ends of the island towards the mainland, or to the southward, so as to form a bay, in which there is a perfectly land-locked anchorage for vessels not drawing more than 15 feet. There is no passage for shipping between the island and Point Mixzenette, but only a very narrow channel for boats on the side next the island. The island stands on an extensive bank of flat sandstone, partially covered with sand, and which, commencing at Point Mixzenette, extends to the eastward parallel to the coast all the way to the entrance of Shippigan Sound, a distance of 8 or 9 miles.

Caraquette Shoal extends $4\frac{1}{2}$ miles to the eastward of the island, from which it dries out occasionally in very low tides to the distance of 2 miles, and is very shallow in every part. From its east end, Caraquette steeple bears W. $\frac{1}{2}$ S., and in one with the extreme of the trees on Caraquette Island; and Shippigan steeple, South, in one with the Pokesuedie Point. This latter bearing clears the shoal to the eastward in 3 fathoms at low water; but a large ship must keep Point Pokesuedie bearing S. by W. $\frac{1}{2}$ W., and in one with Point Marcella.

Mizenette Ledge of Rocks, with 5 feet least water, bears N.N.W. $1\frac{1}{2}$ miles, from the west end of Caraquette Island, and will be cleared to the northward, in $3\frac{1}{2}$ fathoms, by keeping Donax Point just open to the northward of Point Mizzenette, bearing W.N.W. $\frac{1}{2}$ W.; which marks will also lead to the eastward along the northern edge of the Caraquette Shoal until they strike the Scollop Patch, which has 10 feet least water over a rocky bottom. When on this patch, Caraquette Church steeple and the N.W. end of Caraquette Island are in one, and the S.E. end of the island will bear S.S.W. $\frac{1}{2}$ W., distant 2 miles.

The Fisherman Ledge is a detached bed of rocks, with 10 feet least water, lying to the northward of the Caraquette Bank, and separated from it by Fisherman Channel, which is a mile wide and from 4 to 7 fathoms deep. This ledge, lying more in the way of vessels than any other in the Bay of Chaleur, is $1\frac{1}{2}$ miles long in an E. $\frac{1}{2}$ S. direction, and a third of a mile wide from 3 fathoms to 3 fathoms. The northern edge of this ledge is distant 3 miles from Caraquette Island, and its east and west ends bear N.N.E. from the corresponding points of the island. The points of cliff at Great Anse and Donax Point in one, bearing W. by N., lead through Fisherman Channel; it cannot, however, be recommended to large vessels.

Pokesuedie Shoal is an extensive flat of sand extending 2 miles to the northward and eastward from Pokesuedie Island, and has only 6 or 7 feet water over the greater part of it. Caraquette steeple and the sandy S.E. extreme of Caraquette Island in one, bearing W. $\frac{1}{2}$ S., lead over its north point in 2 fathoms at low water; and if the steeple be kept half-way between the extreme of the sandy point, and the extreme of the trees on the same island, the north point of the shoal will be cleared in $4\frac{1}{2}$ fathoms.

The channel forming the entrance to the harbour of Caraquette lies between the Pokesuedie and Caraquette shoals for about $2\frac{1}{2}$ miles, and has water enough for the largest ships; but it is crooked, and only 220 fathoms wide between very steep shoals, and without sufficient leading marks: hence its navigation is attended with some difficulty. The harbour commences immediately within, or to the westward of Pokesuedie Island, and extends westward between the mainland and Caraquette Shoal and Island. Caraquette Church stands conspicuously on a ridge nearly opposite to Point Mizzenette, and the fish-stores and houses of Lower Caraquette nearly opposite to the island. There are 5 and 6 fathoms in the eastern part of the harbour immediately within Pokesuedie, and there are not less than $3\frac{1}{2}$ fathoms till within half a mile of the S.E. point of the island.

Between the island and the main, the channel is only 120 fathoms wide and $2\frac{1}{2}$ deep; but farther westward it increases to a quarter of a mile wide and $4\frac{1}{2}$ fathoms deep, and is there sheltered by the Mizzenette Sands, which dry at low water nearly across to the island. The bottom is sandy in the entrance of Caraquette Channel, and of mud within the harbour. Although this harbour is excellent for merchant-vessels of large tonnage, it is exceedingly dangerous to attempt to run for it without a pilot. The tides rise from 3 to 6 feet, and seldom run stronger than one knot per hour.

SHIPPIGAN SOUND.—This extensive place is formed by Pokesuedie Island and the mainland on the west, and by Shippigan Island on the east. Simon Inlet, which is the best harbour in the Sound, is situated on the western side within Pokesuedie Island: here you can lie landlocked in water deep enough for large ships. The bays of Alemeke and Little Alemeke lie on the opposite or Shippigan side. Alemeke Bay lies most to the southward, and is an excellent harbour containing 3 and 4 fathoms water. A bar of mud and sand extends across the Sound which limits the depth that can be carried into Alemeke Bay to $2\frac{1}{2}$ fathoms, and into Shippigan Harbour to $2\frac{1}{2}$ fathoms at low water. On the south side of the bay stand the church and village of Shippigan, and off them is the harbour of Shippigan, a narrow channel with $2\frac{1}{2}$ to 4 fathoms water lying between shoals of mud and eel-grass nearly dry at low water. This narrow channel continues $2\frac{1}{2}$ miles beyond the church, and terminates at Shippigan Gully,

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the southern entrance of the Sound, which is used by shallops and fishing-boats. In Shippigan Gully the tide is generally very rapid, and there is often a heavy surf on its bar of sand, which partly dries at low water, leaving a channel only 4 or 5 feet deep. The harbour of Shippigan is perfectly secure in all winds, and it is there that the greater part of the vessels which have recently visited this place for timber lie moored. At a short distance to the westward of the church is the watering-place at a small stream in Basse Bay.

The channel leading from Shippigan Flats to the church is 9 miles in length, with deep water, but it is narrow and crooked, without leading marks; and some of the banks are very steep, so that an experienced pilot is absolutely necessary to navigate a large vessel into this harbour with safety. In Shippigan Harbour it is high water F. and C., at 3h. 42m.; spring tides rise 5 ½ or 6 feet, neaps 3 feet. In the channel the rate seldom exceeds a knot. The stream is regular in fine weather, running in at the Gully, to the northward, through the Sound, into the Bay of Chaleur, from about half-ebb to half-flood by the shore, and in the reverse direction, or to the southward, from about half-flood to half-ebb.

A flat extends 2 ½ miles off the north-side of Shippigan Island, and is the most northern of the Shippigan Shoals. It consists of sandstone, thinly and partially covered with sand, and has on some parts only 6 feet of water. There is good warning by the lead all along its northern side, which may be safely approached to 6 fathoms in a large ship, and to 3 fathoms in a small vessel. This flat separates the channel leading to the harbours of Carquette and Shippigan from that which leads into Miscou Harbour.

MISCOU HARBOUR, between Miscou and Shippigan Islands, lies just within the sandy spit at the S.W. extreme of Miscou, where there are from 4 to 6 fathoms, for upwards of a mile in length, and 2 cables' length wide. This forms the harbour for large vessels; but the harbour for small craft is still more extensive, there being a considerably greater breadth with 2 and 2 ½ fathoms water, and also a narrow channel extending eastward through the flats of mud and weeds to within a mile of Miscou Gully, which boats can only enter at high water. Within the harbour the bottom is soft mud; in the channel, just outside the entrance, sand; and, between the shoals farther out, sandstone. This place is much frequented by the American fishermen, who are good pilots for it. The Miscou Channel, leading to the harbour, between Shippigan Flat and the Shippigan Shoals, on the S.W., and the Miscou Flats on the N.E., is only 170 fathoms wide in one part, between shoals so steep that the lead affords not the slightest warning. Only small vessels should attempt this harbour without having first buoyed the channel, or secured the assistance of a good pilot. It is high water F. and C., at 3h. 30m.; spring tides rise 5 feet, neaps 3 feet.

At fully 4 ½ miles off to the N.W. of the S.W. point of Miscou, is the 5-fathom edge of the Miscou Flats, and at 2 ½ miles from the same point there are not more than 3 fathoms. These flats, of sandstone, extend 4 or 5 miles to the N.E. of the harbour; and towards their northern termination there is an opening in the trees which extends across the island, and which has been mistaken by vessels, at night or in foggy weather, either for the harbour or the Gully, according as they were west or east of the island. The remainder of the shore is tolerably bold, with steep, sandy beaches surrounding the north end of Miscou Island, where the huts and stores of fishermen will be seen along the shore. The north point of Miscou Island is distinguished by a green mound, or grassy sand-hill, and the shallow water does not extend more than one-third of a mile off shore; but to the eastward, opposite a small lagoon, where there are several huts and fishing-stores, shallow water, to 3 fathoms, stretches off a mile north-eastward, and to 5 fathoms 2 ½ miles in the same direction. At 1 ½ miles to the south-eastward of the north point is Birch Point, which is a steep cliff of sandstone about 10 feet high, and may easily be recognized by the white birch-trees, which are higher there than in any other parts near the shore. A reef of stones and sand extends half a mile out from the shore. The shoal off the north point may be avoided either by day or night, by the soundings on the chart. Very good anchorage may be obtained on either side of it; under the north point in from 8 to 10 fathoms, with southerly winds, and off Birch Point, in from 3 ½ to 6 fathoms, with westerly winds—the bottom being of sand, which holds sufficiently well for off-shore winds.

The Miscou Banks extend about 22 miles to the eastward of Miscou, and the soundings upon them will fully direct a vessel approaching this part of the coast. The

shoalest part of the banks are on an east line of bearing from Birch Point, whereon, for the first 6 miles off shore, there are only from $5\frac{1}{2}$ to 7 fathoms on a rocky bottom; after which the water deepens rapidly, there being from 12 to 17 fathoms with red sand, rock, and shells for the next 9 miles, at the end of which it deepens to 30 fathoms; 7 miles farther, with depths between 20 and 30 fathoms, over red sand, gravel, shells, and broken coral, brings us to the edge of the bank, where the depth increases rapidly to about 40 fathoms, and the soundings change to mud. The northern edge of the bank, in 30 fathoms, is 7 or 8 miles to the northward of the east line from Birch Point, and passes the north point of Miscou, at the distance of 4 miles, into the Bay of Chaleur, thus affording excellent guidance to vessels. These banks continue to extend off the coast to the southward, but with more regular soundings, and a greater general depth than in the part to which the name of the Miscou Banks has been applied.

The Coast Southwards.—From the east side of Miscou Island to the lighthouse on Point Escuminac the course is S.W. by S., and the distance from the north point of Miscou to the same object is 58 miles. The coast between is low and wooded, with sand-bars and beaches, inclosing several lagoons, the entrances to which, called Guilfies, have shifting bars before them. They all afford shelter for boats; but in the whole distance there is not any harbour for shipping until we arrive at Miramichi. The coast may be safely approached to 10 fathoms in the night-time, and to 6 or 5 fathoms in the day-time, as there are no detached shoals during this course, though in several places shoal water extends to a considerable distance, as at Wilson Point, on the east side of Miscou Island, where a sandy shoal extends a mile out to 3 fathoms, and $1\frac{1}{2}$ miles to 5 fathoms at low water. Again, the shoal water extends two-thirds of a mile off Miscou Gully, 7 miles to the southward of the north point of Miscou; and 4 or 5 miles farther to the southward, off the low sandstone cliffs of Shippigan Island, there are rocky patches with little more than 2 fathoms upon them, and nearly a mile off shore. Still farther to the southward, along the coast of Shippigan Island, and 6 miles to the northward of Shippigan Gully, there is another similar patch at nearly the same distance from the shore.

MIRAMICHI BAY.—The north point of the bay is Point Blackland, which is low and swampy, with steep and black peaty banks. Round it and within the sandy bars, there is a boat communication between Tabisintac Lagoon to the northward and the inner Bay of Miramichi.

The outer bay is about 14 miles wide from the sand-bars off Point Blackland to the lighthouse on Point Escuminac, and $6\frac{1}{2}$ miles deep from that line across its mouth to the main entrance of the inner bay, between Portage and Fox Islands. The outer and inner bays are separated by a range of low sandy islets, between which are three small passages and one main or ship channel.

The northernmost of these islands is named Negowac Sand-Bar, which, together with several sand-bars lying off Point Blackland, form the shore for 4 miles to the W.S.W. from Tabisintac Gully. Between Negowac Sand-Bar and a small one to the S.W. is a gully 280 fathoms wide, and 3 fathoms deep; but a sandy-bar of the usual changeable character lies off it nearly a mile to the S.E., and had about 9 feet over it at low water at the time of Captain Bayfield's survey. There is a very narrow channel within the gully, leading westward up the inner bay, but it is only fit for boats. Between Negowac Gully and Portage Island, a distance of $1\frac{1}{2}$ miles to the S.W., there are several shoals which dry nearly at low water.

Portage Island is 4 miles long in a S.W. by S. direction, and the channel between it and Fox Island is $1\frac{1}{2}$ miles wide. Fox Island is $3\frac{1}{2}$ miles long, in a S.E. direction; and between it and Huckleberry Island is Fox Gully, which is 160 fathoms wide at high tide, and has from 2 to 2 $\frac{1}{2}$ fathoms water, but there is a bar outside, with only 7 feet on it at low water. Huckleberry Island is about $1\frac{1}{2}$ miles long in a S.E. direction; and between it and the mainland is Huckleberry Gully, 200 fathoms wide, but not so deep as Fox Gully. Both Fox and Huckleberry Gullies are only fit for boats or very small craft. At rather more than a mile from Huckleberry Gully, towards Point Escuminac, stands the South Beacon, which is large and white, and has a white-roofed barn behind it; and for 2 miles along the shore, to the eastward of the south beacon, there are houses, where some of the pilots reside. Point Escuminac is low, covered with spruce-trees, and may be known by its lighthouse, painted white, which exhibits a fixed light at 70 feet above the level of the sea. Escuminac

Reef is very dangerous, as it runs off fully 3 miles to the N.E. to the 3-fathom mark, and nearly $2\frac{1}{2}$ miles to 5 fathoms. At night come no nearer than 10 fathoms.

To the eastward of these islands the shallow water runs off to a considerable distance. From the north-east end of Neguac Sand-Bar, in a S.W. direction, to the middle of Portage Island, a distance of 6 miles, the shallows run off about $1\frac{1}{2}$ miles; from thence they run in a S.E. by S. direction, 6 miles, to the entrance of the Ship Channel; in the latter distance the shoals run off fully 3 miles from Fox's Island and the south part of Portage Island. An extensive flat also borders the south side of the bay, from Huckleberry Island to the pitch of Escuminac Reef, and in its eastern part, for fully 3 miles, extends 2 miles from the shore; but when you approach the pilots' houses and the south beacon, you may approach within a mile of the shore. You cannot approach the land so near in any other part of the bay as off the south beacon.

Upon the bar of Miramichi there is only a foot or two of water in some places at low spring-tides; but there is water enough for small vessels near Portage Island, and there is a still deeper part near its S.E. end. The S.E. extreme of this bar will be cleared by keeping the church at French Village in the centre of Fox Gully, bearing W. $\frac{1}{2}$ S. A black buoy is moored at the S.W. extreme of the bar, in 3 fathoms at low water, and must be left on the starboard hand going in; and about a mile N.N.W. from this black buoy there is a red buoy moored in the same depth of water on the Lump (a shoal with 2 fathoms least water on the west side of the channel), and which must be left on the port hand going in. Within this red buoy the channel is clear and straight, about 500 fathoms wide, and from 4 to 7 fathoms deep, running in a N.W. $\frac{1}{2}$ N. direction for 3 miles, until you arrive at the Spit buoy, which is also a red buoy, and must also be left on the port hand going in.

On the north point of Fox Island two small beacons will be seen on the sand-hills, the one red and the other white: these kept in one, and bearing S.E. $\frac{1}{2}$ E. lead in the deepest water, from $2\frac{1}{2}$ to $3\frac{1}{2}$ fathoms, to the outer red buoy of the Horse-shoe.

The Horse-shoe Shoal is 3 miles long north and south, and $2\frac{1}{2}$ miles wide. It consists of sand and gravel, with 8 feet least water, and not more than 6 feet over many parts of it. Its north-east extreme is nearly joined to the shoals of Portage Island, there being only a narrow and intricate channel left which is never used. Good anchorage may be procured in 4 or 5 fathoms water between the Horse-shoe and the south end of Portage, where vessels, drawing too much water to cross the inner bar, may safely anchor during the summer months. The Horse-shoe Shoal is separated from the shoal which connects Fox, Egg, and Vin Islands, by the very narrow ship channel, which in one part is only 180 fathoms wide, and $2\frac{1}{2}$ fathoms deep. This is named the Horse-shoe Bar, or Inner Bar, over which are 18 feet water in ordinary spring-tides. The south side of the Horse-shoe is marked by buoys, which must be all left to the northward, the best water being within the distance of half a cable from them. The S.E. point of the Horse-shoe extends 350 fathoms farther out to the eastward than its outer red buoy; and there is besides a patch, or mound of sand and gravel, with only 10 feet water, lying off the S.E. point of the Horse-shoe to the S.E., so as to narrow the navigable channel between it and Fox Island to a third of a mile. The two small beacons on the north point of Fox Island are useful in enabling vessels to avoid that mound, which renders the passage of the Horse-shoe Bar so difficult for a large vessel.

The Bar of Miramichi should never be attempted by a large vessel, or by persons not properly acquainted with it, without a pilot. The Miramichi pilots will generally be found cruising about off Point Escuminac, in small schooners; but should you not meet with a pilot off Point Escuminac, and it is too late in the day to cross the bar before dark, you should stand off and on till day-light, and not shoal your water to less than 12 fathoms, particularly with the wind from the eastward.

MIRAMICHI is a place of great trade, and a free warehousing port; and the different towns on its banks are rising in importance. Large quantities of timber are annually shipped here; and the salmon and Gaspereaux fisheries are also carried on in their season. The four principal towns are Chatham, Douglstown, Newcastle, and Nelsontown.

Chatham, the principal town on the Miramichi, and containing, at a rough estimate, about 1500 inhabitants, lies about 17 miles to the westward of the Horse-shoe Bar, and extends along the south shore about $1\frac{1}{2}$ miles. Here vessels lie in 6 to 8 fathoms, close to the wharves. It is a straggling but rapidly increasing town, having some

good houses, and an English Episcopalian, a Presbyterian, and a Roman Catholic church, besides two other chapels or places of worship belonging to the Wesleyans and Antiburghers. These buildings are all of wood, neatly painted and finished, and together with the steam saw and grist mills of the Messrs. Cunard form the most remarkable objects.

Douglastown is on the north shore, about $1\frac{1}{2}$ miles above Chatham, and contains about 400 inhabitants. It is prettily situated on a rising ground, and has sufficient water at its wharves for the largest ships. The Marine Hospital, built of stone, is the most remarkable building. The ship-building establishment of Mr. Abram is $1\frac{1}{2}$ miles above Douglastown, on the same side of the river; and opposite to it on the south shore is the English Episcopalian Church of St. Paul.

Newcastle, $1\frac{1}{2}$ miles farther up the river, and on the north shore, is, the county town, containing the Court-house and Jail, a Presbyterian church, a Wesleyan chapel, and some other good buildings. It is pleasantly situated, and contains about 1000 inhabitants. Here are 6 or 7 fathoms water close to the wharves of the town.

Nelsontown is the last village: it is a straggling place, with 200 or 300 inhabitants, chiefly Irish. Here is a large wooden Roman Catholic church: it stands on the south shore, opposite the east end of Beaubere Island, and a mile above Newcastle. The river is navigable as far as Beaubere Island for any vessel that can cross the Horse-shoe Bar.

TIDES.—It is high water at Miramichi Bar at about 5h.; spring-tides rise 5 feet, neaps 3 feet. At Sheldrake Island, at 6h.; spring-tides rise 5 feet, and neaps 3 feet: the ebb-tide runs at the rate of 3 miles an hour in the Sheldrake Channel. It is high water at Beaubere Island, F. and C., at 6h. 30m.; spring-tides rise 6 feet, neaps-tides 4 feet; the ebb runs at the rate of 2 knots, and the flood about a knot. At the rapids, in both the S.W. and N.W. arms, the tides flow until 5h., and they rise here about 2 feet.

POINT ESCUMINAC TO THE GUT OF CANSO.

POINT ESCUMINAC, as before mentioned, is low, covered with spruce-trees, and rendered conspicuous by its lighthouse, which is painted white, and serves to warn vessels of their approach to the reef which runs off 3 miles N.E. from the point.

At $5\frac{1}{2}$ miles S.S.W. from Point Escuminac is Point Sapin, and the intermediate shore is very low and shallow. The Sapin Ledge lies directly off the point, and is very dangerous, having only 12 feet on it, and lying right in the track of ships running alongshore. In the night-time it should not be approached nearer than 9 fathoms; and it should at all times be remembered that there are 5 fathoms at only about 3 cables' length from it. This ledge is $3\frac{1}{2}$ miles long from east to west, and half a mile broad; from its outer edge Escuminac lighthouse bears North, distant 6 miles, and Point Sapin E.S.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles. A depth of $8\frac{1}{2}$ fathoms will be found between it and Point Sapin.

From Point Sapin to Richibucto Head the course and distance are S. $\frac{1}{2}$ W. nearly 26 miles, across Kouchibouguac Bay, the shores of which are very low, with sand-bars and beaches, inclosing lagoons, through which rivers flow into the sea. Kouchibouguac River, after flowing more than a mile through an extensive lagoon, nearly dry at low water in spring-tides, enters the sea by an outlet through sand-bars about 9 miles S.W. from Point Sapin. This river has a bar of sand which frequently shifts. A depth of 9 feet at high-water and spring-tides could be carried in over the bar at the time of Captain Bayfield's survey in 1839. The tides rise from $2\frac{1}{2}$ to 4 feet, and flow 8 miles up the river. In all the northern part of Kouchibouguac Bay the shoal water (that is, to 3 fathoms) extends to some distance off shore, till it joins the Sapin Ledge.

RICHIBUCTO RIVER is, among the rivers on this part of the coast, inferior only to the Miramichi, either in the distance to which it is navigable, or in the depth of water over its bar. On its banks there are flourishing and rapidly increasing settlements. The town of Liverpool stands about 3 miles within the entrance, on the north side of the river.

The entrance of the Richibucto lies between two sand-bars, several miles in length, named the north and south beaches, on which there are sand-hills 80 feet high; it is about 800 fathoms wide. Any vessel that can pass the bar may be taken 15 miles up the river, and small vessels can go up nearly 20 miles. A pilot is absolutely necessary.*

A reef of sandstone extends off Richibucto Point (which is the S.E. extreme of the south beach, and $3\frac{1}{2}$ miles from the river's mouth) to the distance of a mile from the high-water mark, and continues 3 or 8 miles farther to the southward, to Richibucto Head, which is 50 feet high, and composed of sandstone and clay cliffs.

The course and distance from Richibucto Point to the S.E. extremity of the Buetoche sand-bar is S. $14\frac{1}{2}$ miles. In this space there is nothing worthy of notice excepting the small river Shockpish, which affords shelter to boats at high water.

The North Patch, of only 12 feet, must be carefully avoided when approaching Buetoche Roads from the northward; it has 5 fathoms just outside of it. It lies on the N.E. part of the outer bar of Buetoche, and 2 miles off the shore, with Cocagne steeples and the N.W. extreme of Cocagne Island in one, bearing S.S.W. $\frac{1}{2}$ W., and the south end of Buetoche Sand-bar S.W. by W.; by keeping in five fathoms you will pass outside of it. The Outer Bar of Buetoche is a long ridge of sandy and rocky ground with from $2\frac{1}{2}$ to $3\frac{1}{2}$ fathoms, extending to the southward, and parallel to the shore from the North Patch nearly to Cocagne, a distance of 7 miles. Between it and the shore there is a narrow channel of various depths, from $3\frac{1}{2}$ to 5 fathoms.

Buetoche Roadstead, off the entrance of Buetoche River, and in the widest part of the channel within the outer bar, is perfectly safe for a vessel with good ground tackle; the ground being stiff clay, and the outer bar affording protection from any very heavy sea. It is here that vessels of too large a draught of water to enter the river, lie moored to take in their cargoes. When approaching this anchorage there is nothing in the way of vessels that do not draw too much water to cross the outer bar, except the North Patch, before mentioned; but large vessels will find more water (not less than $3\frac{1}{2}$ fathoms) by approaching from the northward, by attending to the following directions. If off the coast, with a leading wind, bring Buetoche steeples to bear to the southward of west, and run in shore with it on that bearing, in order to pass to the northward of the North Patch. As you run in, you will, if the weather be favourable, observe Cocagne steeples open out to the westward of Cocagne Island, so as to be seen between the latter and the mainland; and you must continue your course till the steeples comes on with the extreme of Dickson Point (a small peninsula point about $2\frac{1}{2}$ miles to the southward of the sand-bar). Change the course immediately, running with Cocagne steeples and Dickson Point in one, bearing S.S.W. $\frac{1}{2}$ W., and they will lead you close inside of the outer bar, and clear of a small shoal lying between it and the shore, on which there are not less than $2\frac{1}{2}$ fathoms. Take care not to shut the Cocagne steeples in behind Dickson Point, as you run along the sand-bar, and immediately after Buetoche steeples opens out to the westward of the small sandy islet which forms the S.W. point of Buetoche Sand-bar, you will observe two white beacons on the mainland come in one, bearing N.W. by W. $\frac{1}{2}$ W.; anchor with them in one, and Cocagne

* The bar of this river appears to be more dangerous than formerly, it having been said that vessels drawing 12 feet are unable to cross it. We copy the following from the Shipping Gazette of Nov. 26th, 1868:—"The entrance to the port is impeded by a sand-bar, about $3\frac{1}{2}$ miles from the town of Liverpool. It is stated, in the sailing direction book for this coast, the depth of water on the bar is 12 $\frac{1}{2}$ feet at low, and 17 $\frac{1}{2}$ feet at high water, spring-tides. We find that vessels drawing 12 feet of water have been detained several weeks for want of sufficient water on the bar. The tides are more or less influenced by winds. As the entrance is exposed to heavy gales from the N.E., it has occasioned a decrease in the depth of water, which is extremely dangerous to vessels drawing above 12 feet when loaded, as they must complete their loading outside of the bar, right in an open sea, so that if it blows a N.E. gale, a vessel must unavoidably go on shore; it is almost impossible to escape. There are no less than ten wrecks at the entrance of said harbour (if not more). Another danger is, when outside with rafts of timber or deals alongside, that is often occurs the last tier of the rafts are lost in consequence of the heavy swell that a N.E. breeze occasions, which separates the tiers and they then go adrift. We would recommend masters of vessels, not to load to a deeper draught than 11 feet 3 inches, to insure their going over the bar at high-water springs."

steeples open about its own breadth to the left or eastward of Dickson Point, and you will be in the best berth in $8\frac{1}{2}$ or 4 fathoms at low water, and with excellent holding-ground. If the state of the weather should prevent the leading mark from being distinguished, the chart and the lead ought to be sufficient guides.

Buctouche River enters the sea to the S.E., through the shallow bay within the Buctouche Sand-bar. The two white beacons, before mentioned; which point out the best anchorage in the roadstead, are intended to lead in over the bar of sand and flat sandstone, in the best water, namely, 8 feet at low water, and 12 feet at high water in ordinary spring-tides. To enter the river, the assistance of a pilot is absolutely necessary, as the channel is narrow and intricate.

Cocagne Harbour, 6 miles south of Buctouche, lies between Cocagne Island on the north side and Point Renouard on the south side. It is a very small harbour, and requires the assistance of a pilot.

At nearly 4 miles to the southward of Cocagne, and nearly 10 miles S. $\frac{1}{2}$ E. from the S.E. point of Buctouche Sand-bar, is Shediak Point, off which the Grandigne Shoal, with from 14 to 15 feet water, extends to the distance of 2 miles, having the least water near its outer edge. You can pass outside of this shoal by not approaching the shore nearer than 5 fathoms at low water.

SHEDIAC BAY is $6\frac{1}{2}$ miles wide from Shediak Point to Point Bouleaux, and about 5 miles deep. Near the head of the bay is the island, within the north end of which is the village, accessible for small vessels. The harbour lies between the S.W. point of Shediak Island and Point Chêne; the latter bearing from the former S.S.E. three-quarters of a mile. A sandy bar runs out from Point Chêne to the northward, 800 fathoms, and is dry for nearly half that distance at three-quarters ebb. This bar, together with the shoal farther out, off the S.E. point of Shediak Island, render the harbour very secure. Near the middle of the bay, which is all shallow, there are two rocks, of 7 and 8 feet, lying E.S.E. from the centre of Shediak Island. The easternmost, named Medea Rock, lies 2 miles from the island; the western, named the Zephyr Rock, lies nearly midway between Medea Rock and the island. The passage into the harbour is to the northward of the above rocks, and along the eastern side of Shediak Island, about two-thirds of a mile from it, between the shoal off the S.E. point of the island and Zephyr Rock.

Shediak, although well situated, is not a place of much trade, only a few cargoes of timber, principally deals, being shipped at it annually for the British market. Strangers bound to this place should have the assistance of a pilot. The depth that can be carried in by a good pilot is 14 feet at low water, and 18 feet at high water in ordinary spring-tides. The Shediak and Scoudouc are very small rivers, only navigable for boats for a few miles. The tides at Shediak, when unaffected by winds, rise 4 feet in ordinary spring-tides, and 2 feet in neap-tides; and the rate of the stream of either ebb or flood seldom exceeds half a knot.

Between Point Bouleaux and Cape Bald are Bouchagan and Kouchibouguet Rivers, which can only be entered by boats at high water. A reef extends more than a mile from the shore off Point Bouleaux, but Cape Bald, 11 miles eastward of Shediak Island, is bold and may be safely approached by the lead to 5 fathoms.

From Cape Bald to Cape Bruin the bearing and distance are S.E. by E. nearly 18 miles. In this distance the coast is free from danger, the shoal water extending only about half a mile off shore; and a vessel may safely approach at night to the depth of 6 fathoms at low water. But greater caution will be requisite farther to the eastward on account of the dangerous shoals which commence off Peacock Cove, which is in the bay between Cape Bruin and Cape Jourimain. Great and Little Shemogue Rivers are 7 and $9\frac{1}{2}$ miles respectively to the S.E. by E. of Cape Bald. They are only fit for boats and very small vessels, having very narrow and intricate channels, over shifting bars of sand. Good anchorage may be got off these rivers in 5 or 6 fathoms sandy bottom.

Cape Jourimain bears S.E. by E. $\frac{1}{2}$ E. $6\frac{1}{2}$ miles from Cape Bruin, and is the north extreme of the Jourimain Islands, and forms the extreme point of land to vessels running through the Strait of Northumberland, either from the eastward or westward. There is good anchorage in the bay between Cape Bruin and Cape Jourimain, in 5 fathoms, sandy bottom, and shelter with winds from the S.E. by E. round by south to W. by N. The Jourimain Shoals are very dangerous to vessels in the night, and the lead should always be kept going when approaching them in dark weather; and

when to the eastward of them, come no nearer than 9 fathoms, but to the westward they may be approached as near as 7 or 6 fathoms. Shoal water extends from the cape, N.N.W. $1\frac{1}{2}$ miles, and from thence it extends $4\frac{1}{2}$ miles to the S.W.; near this point of the shoal is a patch of only 6 feet at low water, as shown by the chart; this lies $1\frac{1}{2}$ miles from the shore, and is very dangerous, being bold-to on the east side. To the westward of the cape the shoal water extends fully 4 miles, and runs off fully 2 miles from the shore; but you may approach this part to 6 or 5 fathoms.

CAPE TORMENTINE is the great headland which forms the eastern extremity of New Brunswick within the gulf. Indian Point may be said to form the southern, and Cape Jourimain the northern points of this headland, which is a place of importance in a nautical point of view, not only from its position, but from its dangerous and extensive shoals. The Tormentine Reefs are very dangerous in consequence of the strong tides in their vicinity. They extend off Indian Point rather more than 3 miles to the E.S.E., and there is rocky ground, with 4 fathoms, fully a mile farther off shore. The part of these reefs which dries at low water is very small, and bears E.S.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles from Indian Point. These reefs should, at all times, be approached with caution by the lead, and should not, particularly with light winds, be approached nearer than 9 fathoms, when to the north-eastward of them, as the flood-tide sets over them to the southward, into Bay Verte, at the rate of three knots, causing a great rippling over the part that dries, and thus indicating its position. There is a patch of rocks, with 7 feet at low water, nearly midway between the dry part of the reef and Indian Point. Small vessels carry a depth of $9\frac{1}{2}$ fathoms, at low water, through between that patch and Indian Point, and often take shelter under the latter in northerly winds.

BAY VERTE is 9 miles broad across its entrance, from Indian Point in New Brunswick, to Coldspring Head in Nova Scotia, but contracts to the breadth of $2\frac{1}{2}$ miles near its head. It is 11 miles deep, and separates the two provinces just named; their boundary continuing across the isthmus from the head of Bay Verte to Cumberland Basin, a distance of about 11 miles. There is no harbour in Bay Verte, and it is completely open to easterly winds, as well as very shallow near its head, where flats of mud and weeds dry out to a distance of three-quarters of a mile from the shore.

Gaspereau River lies in the northern corner of the head of the bay, and half a mile to the southward of its mouth are the remains of Fort Monckton, on Old Fort Point, now washed by the sea.

Tignish River, the principal stream in the Bay of Verte, enters the bay on the south side near its head. When the tide is out, the very narrow channel of the river has only 3 feet of water, and it is approached by a narrow channel, from 3 to 7 feet deep, through flats of mud and weeds, which dry out a little from its mouth. Considerable quantities of deals are annually rafted down this river, from whence they are chiefly taken in small schooners, or in rafts along shore, to Pugwash, to be shipped for the British market. Spring-tides rise 9 feet, and neap-tides 6 feet.

Tignish Head lies on the eastern side at the mouth of the Tignish River. There are two patches of stone with 3 and 5 feet water, at the distance of half and three-quarters of a mile N.N.E. $\frac{1}{2}$ E. from Tignish Head, but as these are within the 5-fathom line, they require no farther notice. At $4\frac{1}{2}$ miles south-eastward of Tignish Head is Boas Spit, which dries out to its edge, and is so steep-to that there are 17 feet of water close to its outer point; you should keep in $3\frac{1}{2}$ fathoms when passing this spit. At $3\frac{1}{2}$ miles south-eastward of Boas Spit is Coldspring Head, which lies N.N.W. $\frac{1}{2}$ W., 8 miles from Lewis Head.

In the entrance to Verte Bay are some shoals, which should be avoided when navigating this part of the Strait of Northumberland, viz. Aggermore Rock, Laurent Shoal, Heart Shoal, and Spear Shoal.

The Aggermore Rock, with 16 feet least water, lies N.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles, from Coldspring Head, with a deep-water channel between; but in a N.W. by N. direction, towards Cape Laurent, not more than $3\frac{1}{2}$ fathoms will be found at low water, and in some places less.

Laurent Shoal, of rock and sand, with 16 feet least water, is about three-quarters of a mile long, by half that in breadth. On the shoalest part Cape St. Laurent bears N.W. by N., $3\frac{1}{2}$ miles, Indian Point, N.E. by E. $\frac{1}{2}$ E., and Coldspring Head, S.S.W. $\frac{1}{2}$ W. There are $4\frac{1}{2}$ fathoms close to the east side of this shoal.

Heart Shoal, with 9 feet least water, lies S.W. by S., $1\frac{1}{2}$ miles, from Cape Spear. There are 15 feet between it and the shore.

Spear Shoal lies about a mile E.S.E. from Heart Shoal, and has a patch of rock with 10 feet least water near its east end, and from 15 to 18 feet in other parts. It is a bank of sand and stones, resting on sandstone, about a mile long, from east to west, and one-third of a mile broad. When approaching this shoal from the eastward the lead gives little warning, as there are from $3\frac{1}{2}$ to $4\frac{1}{2}$ fathoms close to it on that side; but by coming into no less than $4\frac{1}{2}$ fathoms, vessels will avoid it, as they pass it to the southward. From the shoalest part Cape Spear bears N.W. by N., $1\frac{1}{2}$ miles, and Indian Point N.N.E., $2\frac{1}{2}$ miles. Between it and Cape Spear there are $3\frac{1}{2}$ fathoms.

From Coldspring Head to Lewis Head the bearing and distance are S.S.E. $\frac{1}{2}$ E., 8 miles, and at $2\frac{1}{2}$ miles E. by S. of Lewis Head is Pugwash Point. Between Lewis Head and Pugwash Point is a bay into which the Rivers Philip and Pugwash run, the former in its western side, and the latter in its eastern. Lewis Reef extends $2\frac{1}{2}$ miles to the N.E. from Lewis Head; its outer part is composed of detached rocky patches, on which there are from 14 to 18 feet of water, with a greater depth between them; but the inner part is very shallow, and has as little as 6 feet of water at the distance of $1\frac{1}{2}$ miles from the shore.

Philip River disembogues to the southward of Lewis Head, and between the latter and Bergeman Point. There is a dangerous bar of stones and sand across its mouth, so situated as to leave only a very narrow and crooked channel of 8 feet at low water, through which the new vessels, built up the river, and brought down light, are taken with difficulty on their way to Pugwash, where they load, and where, also, the lumber and produce brought down this river are taken to be shipped. Boats can go up about 9 miles, and there are increasing settlements along the borders of this river.

PUGWASH HARBOUR lies at the head of the bay of that name and to the southward of the point. There is a depth of 14 feet at low water on the bar, in ordinary spring-tides, within which is a crooked channel, from 50 to 100 fathoms wide, leading to the harbour: to sail through this channel requires the aid of a pilot, who will be obtained in answer to the usual signal. The harbour is a land-locked basin, having a depth of nearly 7 fathoms, in which vessels loading lie moored in perfect security. There is high water at Pugwash, F. and C., at 10h. 30m.; ordinary spring-tides rise 7 feet, and neap-tides 4 feet. The rate of the tidal streams seldom exceeds a knot in the roadstead, and in the entrance of the harbour it is generally less than 2 knots.

A reef runs out from Pugwash Point three-quarters of a mile N.W. by W., and dries out about half that distance. At $\frac{1}{2}$ of a mile off the point to the N. and N.E., there are rocky patches, with 11 and 12 feet of water, and there are others farther to the eastward, a full mile out from the shore: there is also uneven rocky ground, with a less depth than 4 fathoms, 3 miles off shore, and which renders it unsafe for a stranger in a large ship to go within the 5-fathom line.

The roadstead is sheltered by Philip Bar and Lewis Reef from W. and N.W., and by Pugwash Reef from E. and N.E. winds. It affords excellent anchorage, in from 16 to 19 feet at low water, sand and clay bottom; but exposed to winds between N.N.W. and N.N.E., although the shallow water outside prevents any sea from coming in, sufficient to endanger a vessel during the summer months. To take Pugwash Road, you ought to have a pilot, but if unable to get one, then, should you be to the northward, in 5 fathoms, you must bring the English Church steeple, at Pugwash, so as to be seen over, and only just within, the west extreme of the low cliff of Fishing Point, the east point of the bay, bearing S. by E. $\frac{1}{2}$ E.; running with these marks you must not open the church in the least to the westward of the point, until the south point of Philip River (Bergeman Point) bears S.W. by W., or until the water decreases to $3\frac{1}{2}$ fathoms: you will then be close to the N.W. end of the Pugwash Reef; now change your course to S.S.W., three-quarters of a mile, when you may anchor, in 16 or 18 feet at low water, with Fishing Point E. by S. $\frac{1}{2}$ S., distant about half a mile, or you may lie in 14 feet, half a mile farther to the southward.

At 9 miles E.S.E. from Pugwash Point is situated Cape Cliff, and 3 miles farther to the S.E. is Oak Island. The coast between is unbroken and terminates in Point MacKenzie, which is separated from Oak Island by sand-bars and a gully for boats

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nearly dry when the tide is out. Oak Island is about a mile long, and has Jerry Island half a mile to the westward of it, on the north side of Fox Bay, just within Point Mackenzie. To the southward of Oak Island a bay runs in westerly about 2 miles, to Mullin Point, which point separates Fox Bay on the north-west from Wallace Harbour (formerly Ramahog) on the south-west. Fox Bay runs in 3 or 4 miles to the north-west, with a channel through flats of tenacious red clay and weeds, which are nearly dry at low water. In this channel are 3 or 4 fathoms of water; but a depth of 8 or 9 feet is all that can be carried over the bar at low water in ordinary spring-tides.

WALLACE HARBOUR.—This harbour is the best on the coast, excepting Picton, and has 16 feet over its bar at low water of ordinary spring-tides, which rise 8 feet, so that it is capable of admitting very large ships. The entrance, which is W.S.W. $\frac{1}{2}$ W., $2\frac{1}{2}$ miles, from Oak Island, and between two sandy points, named Palmer and Caulfield Points, is 2 cables' length wide, and $6\frac{1}{2}$ fathoms deep; above this the channel is crooked and difficult, although it is 160 fathoms wide. A pilot is always therefore necessary, and may be obtained by making the usual signal. It is high water, F. and O., at 10h. 30m.; spring-tides rise 8 feet, neaps 6 feet, and their velocity does not exceed $1\frac{1}{2}$ knots. When approaching Wallace Harbour from the northward, Oak Island should have a berth given to it of nearly a mile; or keep in 5 fathoms, to avoid the reefs off its east side.

From Oak Island to the eastern point of Saddle Island the bearing and distance are S.E. by E. 6 miles. This island is small and low, and joined to the shore by shoals drying at low water; from its eastern point a dangerous reef extends about a mile, and has on it a rock named the Wash-ball, dry at low tide. To clear this reef on the north side, bring Treen Bluff just open north of Saddle Island bearing W. $\frac{1}{2}$ N., and you will avoid it in 4 fathoms. A frequent use of the lead should be made when in the vicinity of the reef, and a nearer approach should not be made than 6 fathoms on its eastern side.

From Saddle Island the bearing and distance to Cape John are S.E. by E. $\frac{1}{2}$ E. 5 miles. Within this line of bearing the coast-line bends inwards and forms a large bay named Tatamagouche, in which are several harbours and anchoring places.

TATAMAGOUCHE BAY, OR, AMET SOUND.—Immediately outside the entrance of this bay are Amet Islet and Shoals, and the Waugh Bank, which render the bay rather difficult of access. The islet is small and flat at the top, and covered with coarse grass. It is about 20 feet above the sea at high water, and was formerly much larger than at present. Shallow water extends 300 fathoms to the westward from the island, and may be cleared in not less than $3\frac{1}{2}$ fathoms, if the English steeple at the River John be not shut in behind the western side of the cape of the same name; but large ships should stand in only to 6 fathoms, and take notice that in every other direction shallow water extends from the island to a far greater distance. The shoals extend nearly 4 miles to the eastward of the island, and 2 miles to the south-eastward toward Cape John. In both directions are rocky patches of 5 or 6 feet, at rather more than a mile from the island; but there are not less than 16 feet beyond the distance of 2 miles, although there is a patch of that depth at fully 3 miles to the eastward of the island. The marks for this latter patch are the north extremes of Amet Islet and Treen Bluff in one, bearing W. $\frac{1}{2}$ N., and Cape John S.W. $\frac{1}{2}$ S. The northern side of these shoals is very steep and should not be approached by a large ship in the night-time nearer than 10 fathoms.

The Waugh Bank is to the westward of Amet Islet. It is about $1\frac{1}{2}$ miles long, with soundings of 2 to 5 fathoms, and from its position and steepness is very dangerous, so that it should not be approached from the northward nearer than 7 fathoms, that side of the shoal being the shallowest and steepest. To clear it on the N.E. side in 5 or 6 fathoms, bring the eastern extremes of Amet Islet and Cape John in one, bearing S.E. $\frac{1}{2}$ S., or the western side of Cape John and the English Episcopal steeple at the River John in one, bearing S.S.E. $\frac{1}{2}$ E.; and on the S.E. side in 4 fathoms, the eastern extreme of Mullegash and Chambers Points in one, S.W. $\frac{1}{2}$ S. Chambers Point is low and at times difficult to distinguish, on account of the high land behind it.

Cape John, the northern point of the bay, is about 40 or 50 feet high, and has a reef extending from it about 4 cables' length, on the inner part of which are two rocks always above water. This reef is steep-to, especially at its western part, where there are 7 fathoms close-to, being deeper here than anywhere else. From the north

side of the cape shallow water extends half a mile to the depth of 3 fathoms, rendering it necessary for vessels to keep in not less than 4 or 3½ fathoms. Within the cape is John Bay, which runs 4 miles to the S.E., and as far as the entrance of the river is clear of danger, yet the shoals from its shores are steep and should not be approached nearer than 3½ fathoms. Sandy shoals occupy the head of the bay, drying out half a mile. On the bar of the river there is only a foot at low water; here several ships are built.

Nearly in the centre of Tatamagouche Bay is Brulé Peninsula, which is rather low and wooded, and has a reef extending from it 400 fathoms towards the N.W., partly drying at low water, and so bold that the lead gives but little warning of approach. Off the point are some shoals extending 1½ miles to the northward; which are rocky with irregular soundings, and have 9 feet least water not far from their outer edge. They should be approached very cautiously, as there are 4 or 5 fathoms close to the edge. Within the peninsula is the harbour, having upon its bar a depth of 14 feet at low water; when inside the bar there are 19 feet for a short distance, but the channel soon becomes very narrow, running between flats of mud and weeds. The anchorage outside the bar, in 3½ fathoms, muddy bottom, is considered the best sheltered place in the sound; to anchor in the best berth bring Brulé Point N.W. by N., Conn's white house S.W., and Cape John N.E.

Tatamagouche Harbour is to the westward of Brulé Peninsula, lying between it and Mulleghash Point. It is 3½ miles wide at its entrance, and runs in 7 miles to the westward, affording good anchorage everywhere, on a bottom of soft mud, but large ships cannot go far up. From 5 fathoms at the entrance the depth decreases to 3 fathoms 1½ miles up the bay, and to 2 fathoms at 4 miles, the remainder being all shallow, part drying at low water. A rock, with only 7 feet on it lies 3½ cables' length off the northern shore, 2 miles within Mulleghash Point; Amet Island and Mulleghash Point touching, bearing E.N.E., clear it to the southward, distant 120 fathoms. A stranger may safely approach to 3 fathoms at low water; but in entering, keep well over to the northward, to avoid the Brulé Shoals, extending from Brulé Point. On the N.E. side the English Church steeple at the River John, just open to the northward of Long Point, bearing S.E. ½ E., clears them in 3 fathoms. The north and N.W. sides are very steep, but the east and S.E. sides may be approached by the lead. Tatamagouche River is in the S.W. corner of the bay, 5 miles within the entrance. Several vessels visit this river for lumber every year; they anchor off it in 11 or 12 feet at low water, and lie aground on soft mud, as the tide falls, without injury. High water, full and change, at 10h.; spring-tides rise 8 feet, neaps 5 feet.

When approaching Tatamagouche Bay from the eastward, between Cape St. John and Amet Island, keep nearest the cape, to avoid the Amet Shoals, that narrow this channel to about three-quarters of a mile. When coming in to the westward of Amet Island, the passage between Amet Island and the Waugh Shoal to the westward, is a full mile wide, and from 4 to 10 fathoms deep; the leading mark for running through this passage is Brulé Point and Conn's House in one, bearing S. by W. The western passage into Amet Sound, between Waugh Shoal and Saddle Reef, is a mile wide, with 5 to 6 fathoms in it. When bound to John River, or Tatamagouche, pilots may be enabled by making the usual signal.

From Cape John the coast trends S.E. by E. ½ E., 15 miles, to Caribou Island, and is free from dangers. The island is about 4½ miles long, and appears at a distance like several islands, but a nearer approach shows these to be joined together by sandbars. A reef extends from the eastern point of the island towards the N.N.E., nearly three-quarters of a mile, and is composed of large stones; it is very dangerous, as there is deep water very near its north point and eastern side.

Caribou Island with the main incloses a harbour available for small vessels. At its entrance is a small island, named Doctor Island, on either side of which there is a passage. From the eastern point of the island a reef runs to the eastward 1½ miles, and partly dries at low water. To the southward of this and two-thirds of a mile from the same point of the island are the Seal Rocks, dry at low water, from which the shallow water, forming the bar of Caribou Harbour, extends to Logan Point, the

* This stands a short distance back from the southern shore of the harbour, and is at present (1847) the only two-storied house in that place, and has a large barn close to it. It bears S. by W. 1½ miles, from Brulé Point.

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north point of Pictou Bay. Caribou Harbour is about 6 miles long and one broad, and is too shallow and difficult of access for any but small vessels.

PICTOU ISLAND lies to the north-eastward of Caribou. It is about 4½ miles long by about 1½ broad, of moderate height, and well-wooded. Its western point may be passed in 3 fathoms within half a mile, but on either side of it there are rocks, nearly dry at low water, extending 300 fathoms from the shore. The north shore of the island should not be approached nearer than 9 fathoms, particularly at night, but the southern shore may be approached to 5 fathoms. Off the east point of the island a dangerous reef runs nearly a mile to 5 fathoms, and partly dries at low water; near it are 9 fathoms, so that great caution is required when sailing in its vicinity, particularly at night, and with a flood-tide.

From Pictou Island a bank extends to the west and south 3½ miles, upon which are 2½ to 6 fathoms, on a bottom of sandstone thinly covered with sand, gravel, mud, and broken shells. On the northern part of this bank is a series of rocky patches, named the Middle Shoals, having 11 feet least water. They are about 1½ miles in extent, in a W. by S. direction, and may be cleared to the northward in 4 fathoms by bringing Roger Point (the middle point on the south side of Pictou Island) and the west point of the same island in one; but large vessels should not approach them on that side nearer than 7 fathoms.

Between Pictou Bank and the shoals extending from Caribou Island is a channel about half a mile wide with a sufficient depth of water for the largest vessels. It is somewhat difficult to navigate being so crooked that no leading marks direct through the whole extent, nevertheless the following instructions by Captain Bayfield may be of some service; he says that, "the safest mode of running through this channel to the westward, is to strike soundings in 6 or 7 fathoms on the edge of the shoal water off Doctor Island, and follow it to the N.W. until Mackenzie Head is just shut in behind Logan Point, bearing S. ½ W. Then steer from those marks, keeping the Head just shut in, and they will lead across the deep water, and afterwards along the western edge of the Pictou Island Bank out to sea. If the wind were strong from the S.W. with an ebb tide, it would be preferable to keep on the weather side of the channel, in which case the edge of the shoal water off Doctor Island should be followed further to the N.W., until Logan Point is only a little open to the eastward of Doctor Point, bearing S. ½ E. Those points in one lead along the east side of Caribou Reef at the distance of a cable, and in 4 fathoms. Keep Logan Point a little open, and it will lead clear out to sea in not less than 4½ fathoms. The same marks and directions, taken in a reverse order, will enable a vessel to take this channel from the northward or westward, it being only necessary to add, that she should not haul to the eastward until the Hawkebill is well shut in behind Caribou Point, nor open out the former again after having shut it in, until the lighthouse at Pictou is open to the southward of Cole Point; the lighthouse and Cole Point in one, bearing S.W. by W. ½ W., being the mark for clearing the south extreme of the Pictou Island Bank in 5 fathoms.

PICTOU HARBOUR, about 3 miles to the southward of Caribou, is in every respect the finest on the southern shores of the gulf, being capable of receiving ships of any burthen; here are coal-mines, valuable quarries of building stone, and a finely settled country in its neighbourhood. Pictou has been declared a free warehousing port; and its trade is very considerable in lumber, coal, and the fishery. The trade of this port appears to be rapidly increasing, and the town of New Glasgow, up the East River, in the neighbourhood of the coal-mines, promises to be of considerable importance. Coasters, from all parts of the gulf, resort to Pictou; and its exports have amounted to \$100,000 in one season. A steamer runs regularly between Pictou and Quebec; and there is a regular communication by land with Halifax.

The town of Pictou stands on the north shore of the harbour. The houses are crowded together along the shores of a small bay, but all except the church steeples are hidden from vessels entering the harbour, by Battery Point, which shelters them from easterly winds. Many of the dwelling-houses are of stone, and the population upwards of 2000. Opposite the town the harbour expands into three arms, at the heads of which are the East, West, and Middle Rivers; the two latter are only used by boats.

The north point of entrance is Logan Point, and the south point is Mackenzie Head,

which may be easily recognized by presenting a sharp-pointed cliff of clay and sandstone 40 feet high. Off Mackenzie Head to the N.E. by E., nearly a mile, is a shoal of 16 feet least water, with no safe passage between for large vessels; the marks to clear it at one cable's length to the eastward are Caribou and Doctor Points in one bearing N. by W. $\frac{1}{2}$ W., and to the northward at the distance of 200 fathoms, the lighthouse in one with the town point at Pictou bearing W. $\frac{1}{2}$ S. From Mackenzie Point to the lighthouse the water is shallow for about half a mile out; about half-way between is Boat Harbour, the entrance to an extensive lake.

On the opposite or northern side of the harbour reefs extend from Logan Point fully half a mile, which may be crossed in 14 feet at low water by bringing the lighthouse and Cole Point in one, bearing S.W. by W. $\frac{1}{2}$ W., but vessels should not approach nearer than 4 fathoms. From Cole Point, a mile to the southward of Logan Point, a reef also extends out about one-third of a mile, and continues westward to the commencement of London Beach on the north side of the entrance to the harbour.

The Lighthouse, an octagonal wooden structure, on the southern side of the entrance, is painted vertically with red and white stripes, and exhibits a fixed light at 65 feet above the sea, visible 12 or 14 miles. When brought in one with Cole Point, bearing S.W. by W. $\frac{1}{2}$ W., it clears the reef off the east end of Pictou Island, half a mile; and also the southern extremity of Pictou Island Bank in 5 $\frac{1}{2}$ fathoms. If beating into the harbour, tack, when standing to the northward, the moment the light begins to disappear behind Cole Point. If running in, keep the light W.S.W., till you get soundings in 5 fathoms, at low water, off Logan Point, and follow that depth $\frac{1}{2}$ miles to the S.W., taking care not to bring the light to the northward of West. Here you may anchor in the roads till daylight.

The pilots at Pictou (who are generally active experienced men,) are always on the look-out for vessels; but should you not meet with one, there is good anchorage in Pictou Roads in 5 to 6 fathoms, with the lighthouse bearing West. Here you might wait for daylight to obtain a pilot; a stranger, particularly in a large ship, should not attempt to cross the bars without one, although there is good water on both bars. The outer bar has 21 feet at low water, bottom of sand; crossing this bar you fall into 4, 5, or 6 fathoms for about a mile, when you suddenly shoal again to 18 or 19 feet on the inner bar; this bar is also of sand, about a cable's length wide, and distant 4 cables' length from the lighthouse; when across this inner bar the water continues deep to the entrance of the harbour. There is very good anchorage between the bars, but it is open to the N.E. winds. From the lighthouse to the anchorage off the easternmost wharves at Pictou, the channel of the harbour is direct, nearly one-third of a mile wide, deep enough for the largest ships, and clear of danger.

To enter Pictou Harbour with a fair wind, when without Mackenzie Shoal, bring the lighthouse and town point of Pictou in one, bearing 1 or 2 degrees to the southward of west; or, which is the same thing, with Smith Point, the extreme of the land, on the same side beyond the town. Run with these marks on, until Logan and Cole Points come in one, bearing N.E., when instantly sheer a little to the northward, sufficient to bring the town point in one with the north extreme of the Sandy Spit. Keep the last-named marks exactly in one, until the Rearing Bull comes in one with Mackenzie Head, bearing S.E. by E. $\frac{1}{2}$ E., when change the course smartly, and run from those marks, keeping the Roaring Bull just in sight, until the North extreme of Moodil Point (the first point on the south side within the lighthouse) opens to the northward of the Sandy Spit; then haul to the westward, at first towards the S.W. extreme of London Beach, and afterwards so as to pass midway between it and the Sandy Spit into the harbour. With a beating wind a pilot is indispensable. It is high water, full and change, at the lighthouse, at 10h.; spring-tides rise 6 feet, neaps 4 feet. With good tides you will carry 4 fathoms over the bar.

Mr. George Peacock, Master of H.M.S. Andromache, 1839, gives the following account of Pictou Roads and Harbour.

"Pictou is a place of rising importance; its timber trade has rather fallen off of late, but the coal-mines in the immediate neighbourhood have opened a very brisk trade in that article, which occupies some hundreds of vessels, of all dimensions, in the coasting and foreign trade, many of which carry from 500 to 700 tons, chiefly trading to the United States.

The best anchorage in Pictou Roads is in 7 fathoms, with the following bearings:

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—the lighthouse West; Point Caribou North; and the Roaring Bull Point S.E.; the latter is a high bluff, pointing to the southward, and has a small white house on the slope. From this bluff a reef extends north three cables' length, and from Point Caribou another, west, nearly half a mile. Here you are sheltered completely from the S.E. by the S., round to north, and, in a great measure, as far as N.E. by the island and reefs off it. In fact, the only winds that throw in any sea, are those from the S.E. by E. to N.E. by E., and they are fair for running into the harbour, which may be attempted, in almost any weather, by ships drawing from 16 to 20 feet.

To run in, bring the small white house to the left of the lighthouse, and close to it, on with a long building appearing off the starboard point of the harbour, (it lies to the left of a small but remarkable gap in the N.W. land,) bearing W. $\frac{1}{2}$ N.; keep them on until Roaring Bull Point begins to be shut in with the east land, by which time you will be pretty close to the low sandy beach on which the lighthouse stands: then haul over to the northward, toward a bushy tree, standing by itself on the north shore, until you are in mid-channel between it and the lighthouse point. You may then proceed up the harbour, west, in mid-channel, toward the point with the building, above mentioned, and rounding it at a convenient distance, anchor at pleasure, off the town, in 7 or 8 fathoms. Or, if only taking the harbour for shelter, you may anchor anywhere within the lighthouse, in mid-channel. The holding-ground is excellent, and you are here secure from all winds.

On the inner bar, at high water, spring-tides are from 22 to 23 feet of water; on the outer bar, 5 fathoms; between the bars, 7 and 8 fathoms. The tide on full and change, flows at 10h., springs rise from 6 to 8 feet, according to the wind; neaps rise from 3 to 5 feet. The lighthouse, which is painted red and white, in vertical stripes, is very conspicuous, and shows a fixed light.

In order to proceed in the night, with a vessel of easy draught, bring the light to bear W. $\frac{1}{2}$ N. and steer for it until within about 50 fathoms off it, and then haul round it gradually, at about that distance; not going into less than 8 fathoms.

Pictou appears to me to be a harbour very easy of access, and very capacious. The roadstead is certainly one of the best in the world, the bottom clay and mud. There is anchorage under Pictou Island, but it is by no means to be recommended. This island may be seen from a ship's deck 4 or 5 leagues off; a reef extends from its east end about a mile, and from its west end more than half-channel over. The three-fathom bank, marked in some charts, it is said, does not exist."—*Nautical Magazine*, 1839, p. 146.

From the lighthouse the distance to the Roaring Bull, a cliffy point inclosing a small lagoon, named Chance Harbour, is 4 miles in an easterly direction. From this point a reef runs out 300 fathoms. Two miles hence in the same direction is Little Harbour, a place fit only for boats, as, although of some extent, it is full of shoals. In the middle of the bay is Roy Island, off the north side of which there is a dangerous ledge of 9 feet; there is also a reef of sandstone, partly dry at low water, running out from Colquhoun Point, half a mile to the eastward. As all these dangers have five fathoms close to them, vessels should be careful not to stand into less than 6 fathoms along this part of the coast.

Merigomish Harbour, east of Little Harbour, has 14 feet over the bar, and a depth sufficient for large vessels; but it is so intricate and difficult of access that a pilot is indispensable. On the eastern side of the harbour is the island of the same name, $2\frac{1}{2}$ miles long and $1\frac{1}{2}$ broad, rising to the height of about 150 feet, the eastern end of which is united to the shore by a sand-bar. Hence to Cape George the coast runs E. by N., 27 miles, and is bold and free from danger, and contains no harbour for shipping. The country is covered with settlements, and the hills rising from the coast attain an elevation of 1100 feet at 8 or 9 miles from the shore side.

At 84 miles from Merigomish is the village of Arisaig with its wooden pier, affording shelter to boats and shallops in easterly winds, but none in winds from between north and west. East of this pier, about a mile, is a remarkable rock named the Barn. Three miles farther eastward is Malignant Cove and Brook, where there is good landing for boats; this place will be known by the Sugar Loaf Hill in its rear, which is 680 feet above the sea.

Under Cape George there is good anchorage in 10 to 7 fathoms, sheltered from westerly winds.

BRETON ISLAND, &c.

About 10 miles S. by W. from Cape George is the entrance of the harbour of Antigonish, where small vessels load gypsum or plaster, of which there is abundance in the neighbourhood; but the harbour is so shoal, that they are obliged to complete their cargoes outside the bay, in very indifferent anchorage. The rivers falling into this harbour run through many miles of fine country, and the population of the neighbourhood is considerable.

At Pomquet Island, 6 miles south-eastward of Antigonish, ships of any size may load in safety. In sailing in, when from the northward, leave the island on the starboard hand, keeping close to a rock which appears 5 or 6 feet above the water. This rock is steep-to, and lies off the east end of the island; without it, at the distance of three-quarters of a mile, are some dangerous sunken ledges. After passing the rock, a bay will open on the starboard hand, which you should stand into till you are shut in with the island, where there is anchorage in $3\frac{1}{2}$ fathoms, at about half a mile from the island.

From Pomquet Island to Cape Jack the distance is $7\frac{1}{2}$ miles; between are two small bays, named Great and Little Tracadie. Off Cape Jack there is a dangerous shoal at the distance of about three-quarters of a mile, which must be carefully avoided when running for the Gut of Canso; outside it the water soon deepens from $4\frac{1}{2}$ to 7 fathoms.

Between Cape Jack and the entrance of the Gut of Canso, there is a small harbour, named Havre Bouche, in which small vessels of 15 to 50 tons are occasionally built. Hence to the Gut of Canso the shore is lined by a ledge of rocks to a short distance out.

The lighthouse on the western side of the entrance of the Gut of Canso, stands in lat. $45^{\circ} 41' 49''$ N. and long. $61^{\circ} 32'$ W.; it is painted white and stands 120 yards from the shore. The light is fixed, at 115 feet above the level of the sea, and can be seen at the distance of 6 leagues, or between Cape George and Henry Island, and is thus very useful when approaching the gut from George Bay. Under the lighthouse there is good anchorage with off-shore winds.

Between Cape George and the Gut of Canso, in fine weather, the winds draw from the southward and south-eastward; and from the Cape to Pictou from the southward. In general they are variable near the cape.

BRETON ISLAND, &c.

GUT OF CANSO.—The Gut of Canso is the passage separating Breton Island from the coast of Nova Scotia. It is the best passage for vessels bound to and from Prince Edward's Island and other places, as it is shorter and has the advantages of anchorage in case of contrary winds and bad weather. Its length is about 5 leagues, and breadth about three-quarters of a mile. The east side is low with beaches, but the west side is mostly high and rocky, particularly that part named Cape Porcupine. The deepest water is on the western shore; but both shores are bold-to and sound, excepting three sunken rocks lying near the eastern shore, one of which lies about midway between the southern entrance of the gut and Ship Harbour, and nearly a cable's length from the eastern shore; the second lies near the western side of 100 fathoms without Bear's Island, the S.E. part of the gut; these rocks have 6 or 8 feet water on them. There are several places, hereafter described, which afford excellent anchorages, with a moderate depth, and out of the stream of the tide, which generally sets in from the southward, but very irregularly, being much influenced by the winds. After strong N.W. winds, which happen daily during the fall of the year, the water in the Gulf of St. Lawrence is rendered low, which causes the current to run northward through the gut, at the rate of 4 or 5 knots, and the contrary happens after southerly winds.

Mill Creek is on the Nova Scotia side of the gut, near its upper end, and here you may stop a tide, or lie wind-bound if it does not blow hard. Keep the creek open and anchor in 8 or 10 fathoms on the south side of the creek, within a cable's length of the steep rocks. It will be necessary to carry a hawser on shore to the rocks, to

steady the ship, as the tide runs in eddies. Fresh water may be obtained at low water.

Nearly opposite Mill Creek is Balaches Point, off which at nearly a cable's length from shore there is a sunken rock, readily distinguishable by the tidal eddy. Half a mile southward from hence is Gypsum Cove, from which Cape Porcupine bears nearly S.W. When sailing in keep near the middle, and let go your anchor in 10 fathoms. You will find sufficient room for swinging round, in 7 fathoms.

Ship Harbour, half-way down the gut on the eastern side, is a good harbour for vessels of 10 feet draught, and very useful to those bound northward, as it has a good outlet. If bound in from the southward, give the starboard side a berth of a cable's length (it being flat), and run in until you shut the north entrance of the Gut, and anchor in 4 or 5 fathoms, soft bottom. You may obtain wood on the Breton side, and water on the opposite shore, at Venus Creek. The port side of this harbour is bolder than the starboard side, and has the deepest water. Without the harbour, one-third from the Breton side, you may anchor in 9, 10, to 13 fathoms, loose ground, in the strength of the tide.

Good anchorage may be had at Holland Cove, nearly opposite Ship Harbour, in 6 or 7 fathoms, muddy bottom, and out of the strength of the tide.

At the south end of the gut there is a fine bay, on the Breton side, named Inhabitant Bay, in which there is good anchorage and shelter. When sailing in, keep near Evans Island to avoid Long Ledge, stretching off the north shore, after passing which, run up in mid-channel, keeping the lead constantly going. Tarbalton and Sea-Coal Harbours, the former on the east and the latter on the west side of the bay, each afford good sheltered anchorage in 4, 5, and 6 fathoms, on a muddy bottom, and are very convenient when N.W. winds prevail at the south entrance of the Gut. When bound southwards, if caught with a southerly wind, you will find good anchorage under Tarbalton Head, where you may ride safely in the bay, in 5 or 6 fathoms.

The following directions have been given for the Gut and may still be found useful:—

"If from the northward, you may proceed through the Gut in safety, by keeping nearly in the mid-channel, there being no danger until you arrive off the south point named Eddy Point; * but, from this point, extends a long spit of sand, with large round stones, which must be left on the starboard side, at the distance of half a mile from what may be seen above water. The race of the tide will serve to guide you from it.

Having passed the spit of Eddy Point, you may steer to the S.S.E. until abreast of an island which appears covered with green spruce-trees, having red bark. Hence you proceed straight out to sea.

Be cautious of running in the direction of a dangerous steep rock, named the Cerberus Rock, with only 10 feet of water over it, and on which the sea breaks occasionally. This rock lies with the centre of Verte or Green Island in a line with Cape Hogan, or Iron Cape, on the Isle of Madame, at the distance of about $4\frac{1}{2}$ miles from Cape Argos, and about $3\frac{1}{2}$ miles from Cape Hogan. It may be cleared on the west side by bringing Eddy Point in one with Bear Island.

Near the end of the Gut, within a mile of Eddy Point, there is a middle ground of 7 to 12 fathoms, on which ships may stop a tide in moderate weather. To the westward of this ground there is a depth of 18 fathoms, and to the eastward of it 20 to 25 fathoms. With the wind inclining from the southward, steer in nearly West, and keep the lead going, until you shoalen to 11 fathoms, when you may let go your anchor.

If wishing to anchor in Inhabitant Bay, bring the farm that is opposite to Bear Head open with Bear Head bearing W.S.W. This mark will lead you clear, and to the southward of the Long Ledge, and in the mid-channel between it and the steep rocks on the east or opposite shore: at the same time, take your soundings from the Long Ledge or north shore, all the way till you arrive at Flat Point; then keep in mid-channel between Flat Point and the island opposite, from the N.E. side of which runs off a spit or ledge of rocks, at the distance of a cable and a half's length; then

* On this point there is a square lighthouse, painted white, with a black diamond on the seaward side, which exhibits two fixed white lights, visible about 8 miles.

port your helm, and run under Island Point, and come-to in 5 fathoms, muddy bottom. Up the River Trent are plenty of salmon, in the season, and there you may find wood and water.

The leading mark to clear the steep rocks of Steep Point is, to bring the peninsula in a line over the point of Tarbalton Head, bearing S. or S. $\frac{1}{2}$ E. until you open the island to the northward of Island Point; then haul up for the outer harbour, and come-to in 10 or 12 fathoms, muddy bottom.

Those who are bound up the Gut of Canso, and taken short by a N. or N.W. wind, at the south end of the Gut, and who are desirous of good and safe anchorage in 10 to 12 fathoms of water, may come-to on the north side of Bear Island; but, should it blow hard, to a gale of wind, down the Gut, this anchorage is not altogether so secure as a careful master or pilot would wish. You must then leave the road of Bear Island, and sail round the south end of Bear Point, giving a berth to the spit that runs off it, of 3 cables' length, and haul round to the N.E. into Sea-Coal Bay, and come to anchor in 4, 5, or 6 fathoms, sand and muddy bottom.

The marks for anchoring are, Bear Head in a line over Flat Head, bearing W.S.W., or W. by S., and Caglon Cliffs to bear N. by E. or N., in 5 or 6 fathoms, where you will have a good berth and lie sheltered from the W.N.W. and N. winds. Here is sufficient room to moor ten or twelve ships of the largest class.

Ships coming down the Gut of Canso, which may have passed Eddy Point, as far as Cape Argos, and caught with a S.E. to a S.S.W. wind, and cannot hold their own by beating to windward, may bear up and come to anchor in Tarbalton Bay, under Tarbalton Head, where they may ride safely in from 5, 6, or 7 fathoms of water, muddy bottom. The marks for anchoring in the bay are; to bring the peninsula point in a line over Tarbalton Head, bearing S. or S. $\frac{1}{2}$ W.; or a point of land inland, a little up in the country, from Cape Argos shore, with pine-trees on it, open to the eastward of Red Head; or the said point of land with pine-trees on it, over the pitch or point of Tarbalton Head; you are then sheltered by the rocks, or spit that runs from Tarbalton Head, in 4 to 5 and 6 fathoms of water, and will ride very safely on good holding-ground. But should the wind shift to the S.W. or N.W., you must take up your anchor, and beat out of the bay into Chedabucto Bay, and proceed on your passage to the southward. Should the wind over-blow, at S.W., so as to prevent your beating to windward into Chedabucto Bay, you may come to an anchor in Eddy Cove, bringing the low part of Eddy Point to bear S.S.E. or S. by E., in 5, 6, or 7 fathoms of water, taking care to give the ship sufficient cable, lest you drive off the bank into deep water, from 15 to 20 fathoms.

NARROW ISLAND is a large island of a triangular form. Its length is about 100 miles, and its breadth about 85 miles. In the centre of the island there is a large lake, named the Bras d'Or, which penetrates a distance of nearly 60 miles, and occupies a large portion of its area; by this lake the island is nearly divided into two parts. The entrance to the Bras d'Or is formed into two passages, named the Great and Little Entrance, by the long narrow island of Boulardrie; the latter channel is impracticable for ships, and is seldom used even by boats. The shores of this lake or gulf contain numerous bays and small harbours, in which timber is shipped for Great Britain. The open part of it forms four large arms, of which the southern and the largest contains many small islands, and terminates at the isthmus of St. Peter, which is about 900 yards wide, and separates the waters of Bras d'Or from those of the Atlantic at the Bay of St. Peter.

The island is generally mountainous, and the high land appears in many places close to the coast, and on the shores of the Bras d'Or. Cape Ensmé, 20 miles north of St. Anne's Harbour, is said to be 1800 feet above the level of the sea.

In that part of the island which is south-east of the Bras d'Or granite prevails. In all parts of the island are found mica-slate, clay-slate, and sienite; transition limestone, greywacke, gypsum and coal, are very generally distributed. The principal coal field lies between Miray Bay and Sydney Harbour, and contains the Sydney and Bridgeport mines, from which increasing quantities are annually shipped.

The N.W. coast of Breton Island, from Cape North to Cape Linzee, is, in the inland parts of the country, very high, but in some places it falls gradually towards the shore. Sailing along on this side of the island, from the northward, you may safely stand in to the distance of two leagues from shore. Having arrived off Cape Linzee, and proceeding along the Breton shore towards the Gut of Canso, care must be taken

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to avoid the Judique Bank and Shoals, the former of which has $4\frac{1}{2}$ fathoms over it, and lies about 6 miles southward of Henry Island, at 3 miles from the shore; the Shoals are situated nearly 8 miles further to the southward, and extend $1\frac{1}{2}$ miles from the land. The mark for clearing all these dangers is the high land of Cape Porcupine just open, and bearing S. $\frac{1}{2}$ E. of the east shore of the Gut.

The eastern coast of the island is commonly made by navigators bound from Europe to Nova Scotia; its appearance on the sea shore, and also to some distance up the country, is barren and rocky; and the tops of the hills, being much alike, have nothing remarkable to distinguish them. The lighthouse and town of Louisbourg serve, however, to point out that part of the island on which they stand. A lighthouse, painted white, now stands on the east point of Scatari Island, and exhibits a revolving light, visible one minute and invisible half a minute. A lighthouse, showing a fixed light 160 feet above the sea, stands on Flat Island, upon the eastern side of the entrance to Sydney, and may be easily distinguished from that on Scatari Island, by its being painted vertically red and white. Louisbourg Lighthouse stands on the eastern side of the entrance to the harbour, and in order to distinguish it from the other lighthouses, and to render it conspicuous when the back land is covered with snow, it is built square, painted white, with vertical black stripes on either side. The coast continues rocky on the shore, with a few banks of red earth, which appear less barren.

The N.E. coast of Breton Island, between Scatari Island and Cape Dauphin, is low; but, from Cape Dauphin to Cape Ensumé, it is high. Between Scatari Island and the entrance to Port St. Anne, a vessel may stand in-shore, to 15, 10, and 7 fathoms in clear water with gradual soundings.

Blancherotte, or White Cliff, is situated on the south-eastern coast of the island, and is a remarkable cliff of whitish earth in lat. $45^{\circ} 30'$, and long. $60^{\circ} 25'$. At 4 miles to the westward of it is a small woody island, at upwards of a mile from shore, and off the little harbour of Esprit. The land hence to Madame Island is generally low, and presents several banks of bright red earth, with beaches between them. Albion Cliff, on the south side of Madame, is rocky, remarkably high, and precipitous. Of the interior of Breton Island, like Newfoundland, but little is known.

When approaching the island, from any direction, too much caution cannot be exercised on account of the currents setting alternately about Cape North according to the winds at sea, both from the westward and eastward.

CAPE NORTH is a lofty promontory at the N.E. extremity of Breton Island, in lat. $47^{\circ} 8' 40''$, and long. $60^{\circ} 25' 28''$. The entrance into the Gulf of St. Lawrence is formed by this cape and Cape Bay, and the latter bears from the former E.N.E. $\frac{1}{2}$ E., distant $18\frac{1}{2}$ leagues: the depth of water between, excepting near the Island of St. Paul, is generally above 200 fathoms.

From Cape North to Ashpee Harbour the course and distance are S.W. $\frac{1}{2}$ S. 6 miles. In this harbour vessels may find shelter, and good anchorage may be obtained behind the island, where boats can land, and water and provisions be obtained. For want of knowledge of such an establishment, many have been obliged to endure both hunger and fatigue unrelieved.

At two miles to the southward of Ashpee Harbour is situated Aralaw Cove, from which the coast runs 2 miles to the eastward, and then trends S.S.W., 11 miles, to Naganish Island, between which and Cape Ensumé a good bay is formed, full $2\frac{1}{2}$ miles deep, with 4 to 9 fathoms in it. Another deep bay lies on the south side of Cape Ensumé, nearly as large as the former, with 7 to 10 fathoms in it: but they are both open to easterly winds. From Cape Ensumé to Black Point the course and distance are S.W. by S. 20 miles. Black Point forms the western, and Siboux Islands the eastern side of the entrance to St. Anne's Harbour.

ST. ANNE'S HARBOUR.—This harbour was named by the French, when in their possession, Port Dauphin, and is a very safe and spacious harbour. It has but a narrow entrance, and carries 4 fathoms at low water, until you join the beach. When in mid-channel you will have from 9 to 10 fathoms, and in the harbour from 5 to 10 fathoms, muddy bottom. On the north side the land is very high, and ships-of-war may lie so near to the shore that a water hose may reach the fresh water, and a ship may be loaded in one day, from a cascade which runs from the top of the rock. The Guernsey and Jersey men dry their fish on this beach.

Mr. Backhouse has given the following directions for St. Anne's Harbour.—After

you have passed the Siboux or Hertford Isles, on the east side of the entrance, keep the south shore on board, if the wind be to the S.E.; and as you approach Passage Point, bring Cape Ensumé, or Cape Smoke, which lies to the northward, nearly on with Black-Point; steer with these marks in one, until you are nearly abreast of Passage Point, off which lies a sunken rock, of 6 feet water, and opposite to which begins the spit of St. Anne's Flat, and the narrowest part of the channel. Now keep a small hummock up in the country, nearest to the shelving high land to the westward of it, which hummock is on the middle land from the water side, in a line over the fishing-butt, or fishing-stage erected on the beach: this will lead in the best water, until you enter the elbow part of the beach. When advanced thus far, keep the opening open (about the size of two gun-ports) which makes its appearance up the S.W. arm. This lead you between the beach and the south shore, in mid-channel, through 9 and 10 fathoms, and past the beach-point, off which a spit stretches to the S.W. about 2 cables' length. Having passed this spit, come to anchor in either side of the harbour, in from 5 to 10 fathoms, muddy bottom, and sheltered from all winds."

LA BRAS D'OR.—There are two entrances to this lake or inlet, the Northern, or Great Entrance, and the Southern, or Little Entrance; they were thus described some years since by Mr. Thomas Kelly, pilot of the place; but the names of the places he refers to are generally unknown, and cannot be applied to any publication extant.

Sailing Directions for the Grand Bras d'Or Entrance.—"Ships from the southward must give Point le Conie a berth of about 2 miles, and steer from thence for the eastern end of the inside of Bird Island, until you bring M'Kenzie Point and Carey's Beach in one. Make for the Black Rock Point until you have Messrs. Duffus's Store just open of Point Noir; then steer for Gooseberry Beach until you bring a clearing on Duncan's Head over M'Kenzie's Point. It is to be observed, that ships coming in with the tide of flood must keep Point Noir well aboard, to avoid the eddy, and whirlpools on the north side of the Gut, which has various settings. You must then steer for Point Jane, to keep the fair stream of tide as far as the Round Cove, where there is fair anchorage in 7 or 8 fathoms, good holding-ground. When abreast of the Round Cove, steer over for Duncan's Head; and when abreast of this head, steer for Long Beach, until you bring a tall pine-tree on the Upper Seal Island in one with a notch at valley in the mountain. You will then make for the point of the Upper Seal Island, which will carry you clear of the shoals on the islands, as also the South Shoal, or Middle Ground. The marks for the shoals are a white rock in the bank for the eastern end, and a white birch-tree for the western end. When abreast of the western end of this shoal you may keep the middle, there being no difficulty until you come to Red Head. If bound to Kent Harbour, after doubling the Red Head, steer for a remarkable red bank, covered with small bushes, until you bring Mr. Duffus's house entirely open of the beach which is on the island. There is a depth of from 4 to 5 fathoms in this harbour, and good holding-ground.

Directions for that arm of the Lake named St. Patrick's Channel and up to Whookamagh.—From Red Head you will steer well over for the Duke of Kent's Island, to avoid a mud-shoal which runs off from M'Kay's Point. When abreast of the western end of the Duke of Kent's Island, sail for Wassaback Head, until abreast of Stony Island. Then steer for Cranberry Head so as to clear a shoal lying off from Wassaback Head; when abreast of Cranberry Point, sheer well over for the Bell Rock, to avoid a shoal lying on the south side of the channel; when abreast of the Bell Rock, steer for Green Beach, observing to keep Baddock River shut in until you are well up with Green Beach. You will then steer for a beach on the south shore, until you cross the opening of the Narrows; you may then sail through the Narrows, keeping the middle until you come to the western end, when you must haul round the southern shore (beach), keeping the south shore until abreast of the Plaster Cliffs; you are then clear of all, and in the Whookamagh Lake.

Of the Anchorage through the Bras d'Or.—The first anchorage is the Round Cove, where you may ride in 7 or 8 fathoms. You may anchor, in 5 or 6 fathoms, in the centre of the harbour, on a middle ground; the marks for which are, to bring the Table Island a handspike's length open of Black Rock Point, and Point Jane bearing N.W. On the north side of the harbour is good anchorage as far up as the Lower Seal Islands, and to the eastward of the Upper Seal Islands, in 5 fathoms, and to the

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Setting of the Tide in Grand Bras d'Or.—The first quarter-flood sets from the northward, directly over the shoal, last quarter W.S.W., being directly through the channel, and meeting with the tide coming over the shoal, sets toward the Black Point, which occasions it to shoot across the Gut, making a number of whirlpools and strong eddies on each side of the channel, which slackens two or three times during the tide. The first quarter-ebb sets over the shoal to the northward; last quarter directly through the channel. N.B.—The tide of ebb is the fairest setting-tide. The tide runs in until half-ebb, and out until half-flood, in regular tides; but the winds make a great alteration; N.E. winds make high tides, and S.W. neaping them; also tides running but with S.W. winds until high water, and in until low water with N.E. winds. Tides rise four feet, unless affected by winds. High water ten minutes past eight o'clock, full and change. Bearings by compass.

Observations.—Messrs. Duffus's store is a fishing establishment. Mr. Duffus's house is on Kent Island, formerly Mutton Island. The aforesaid Thomas Kelly piloted the ship Pitt, of St. Kitt's, burthen nearly 400 tons, laden with timber, and drawing about 18 feet of water, safely through the foregoing described channel from Kent Harbour.

SYDNEY HARBOUR, formerly named Spanish River, the entrance to which lies 4 leagues S.E. of that of St. Anne's, is an excellent harbour, having a safe and secure entrance, with soundings, regular from sea, in 5 fathoms. In going in, give the two points of the entrance a berth of two or three cables' length, approaching no nearer than 6 or 5 fathoms. The soundings are regular to each shore to 5 and 4 fathoms. In the inner part of the entrance, Beach Point and Ledge, on the south side, are steep-to; but Sydney Flats, on the opposite side, are regular to 4 fathoms. When past the Beach Point, you may run up the River Dartmouth to the S.W., and come to anchor in any depth you please, in from 5 to 10 fathoms, fine muddy bottom.

This harbour is capable of containing the whole navy of Great Britain. On Flat Point without the east side of the entrance is the lighthouse before alluded to, in lat. $46^{\circ} 16' 21''$, and long. $60^{\circ} 10' 18''$. It is an octagonal tower of wood, 51 feet in height, painted vertically red and white. It exhibits a brilliant fixed light, at 70 feet above the level of the sea, which may be seen in clear weather at 5 leagues' distance. Fish of various kinds, cod, haddock, &c., are caught on the coast in great abundance. The tide in the harbour flows at 9h., and rises 6 feet.

South-east of Sydney Harbour are Indian Bay and Windham River, both places of anchorage, and fit for small vessels to run into, although little frequented at present; southward of these is Morien, or Cow Bay, at the northern point of which is Flint Island; there is a passage between this island and the main, with 14 fathoms water, but this should be adopted with the greatest caution, on account of the numerous rocks under water that are scattered about. This bay is open to the north-eastward, and its head is enumbered with an extensive shallow flat, which dries at low water.

Miray Bay is farther to the southward, its entrance being between Cape Morien and the Island of Scatari; the bay is wide, and runs in 3 leagues, branching off at its upper part into two rivers; there is deep water in it, from 30 to 6 fathoms, and clear from dangers, but it affords no shelter for shipping.

SCATARI ISLAND lies in about the lat. of $46^{\circ} N.$; its length from E. to W. is nearly 2 leagues, and its breadth about one league; there is a channel between it and Cape Breton leading into Miray Bay, but it is too hazardous for strangers, and frequented only by those coasters who are well acquainted with its dangers.

On the east point of this island, which is also the easternmost land of Breton Island, is a lighthouse, in lat. $46^{\circ} 2' 18''$, and long. $59^{\circ} 40'$. The tower is painted white, and exhibits a revolving light, at about 90 feet above the sea; visible one minute, and invisible half a minute, alternately. A boat is kept to render assistance to vessels in distress, and a gun to answer signals, when requisite. The light should never be brought to bear eastward of N.N.E. nor to the southward of S.S.W., nor should it be approached nearer than 1½ miles.

As vessels from Europe frequently first make the land about Scatari Island, the revolving light on the eastern point will be found of great service. It appears, by the late survey of the St. Peter's Bank, that in lat. $46^{\circ} N.$ the western edge of the bank,

in 40 fathoms, pebbles and broken shells, lies E.S.E., or (East, true,) 111 miles from the lighthouse on Scatari Island.

LOUISBOURG HARBOUR, situated on the S.E. side of Cape Breton Island, to the westward of Scatari Island, is very easy of access and egress. In availing yourself of it be careful to avoid the Nag's Head, a sunken rock, on the starboard hand going in. The east part of the harbour is the safest. The inhabitants consist of a few fishermen only. Water is plentiful, but wood is scarce. The Nag's Head Rock lies nearly one-third from the lighthouse point, and has no more than 3 feet on it at low water. The port side going in is the boldest.

There is a lighthouse on the eastern side of the entrance to the harbour at 60 fathoms in-shore. It stands on the site of the old French lighthouse, (which was succeeded by a beacon,) and shows a fixed light, visible at sea, from off Cape Portland to the south-eastern extremity of Cape Breton. The lighthouse (which is a square building), is painted white, with vertical black stripes on either side, in order to distinguish it from other lighthouses, and to render it conspicuous when the back land is covered with snow.)

The following remarks were written some years since, and may still be of service to vessels bound to Louisbourg:—When coming from the eastward, they should bring the light to bear W. by N., or more northerly, before they run for it; and from westward, N. by E., or more northerly, in order to clear Green Island and the Ledges, which lie three-quarters of a mile S. by W. $\frac{1}{2}$ W. from the light. When in the entrance of the harbour, which is nearly half a mile wide, with the light bearing N.N.E. two or three cables' distance, steer W.N.W. for half a mile, to avoid the Nag's Head, a sunken rock on the starboard side, bearing W. by N. from the light. The N.E. arm of the harbour affords the safest anchorage. The light of Louisbourg bears about S.S.W. $\frac{1}{2}$ W. from the revolving light on Scatari Island.

GABARUS BAY.—From the entrance of Louisbourg to Guyon or Portland Isle, the course is S.W. by W., and the distance more than 3 leagues. Between lies a spacious bay, named Gabarus Bay, having a depth of from 20 to 7 fathoms. Off Cape Portland, the south point of this bay, lie the Cormorants, a number of dangerous islets and rocks. About 4 leagues to the westward of Gabarus Bay is the Forked Harbour, a narrow winding inlet, which small vessels may run into, and lie landlocked, and 5 miles south-westward of this is the remarkable white cliff, already noticed, named Cape Blancherotte. The shore now winds to the westward, to Cape Hinchinbroke and the Isle of Madame.

ARACHAT, OR AROCHETTE.—Arachet Harbour, on the S.W. side of the Isle of Madame, has two entrances: the N.W. one, being very narrow, ought never to be attempted without a leading wind, as there is not room for a large ship to swing to her anchors, should she be taken aback. When going in, give the ledge extending westward from Seymour or Jerseyman Island a good berth, not approaching it nearer than 8 fathoms, and then keep as near as possible in mid-channel. To enter by the S.E. passage, steer for Point Marache, rounding it in 6 fathoms, at about two cables' length off; keep that shore on board, at nearly the same distance and depth of water, until the church bears North; you will then see a small house (the Dead House) on the top of the hill behind the church; bring that on with the east end of the church, and then steer in that direction; you will thus pass mid-way to the eastward of the Eleven and Five-foot shoals, and also to the westward of the Fiddle-Head Shoal. Proceed with this mark on, until a red house on Fiddle-Head Point comes on with the dark rocky extreme of the point, bearing E. $\frac{1}{2}$ S.; you will then be to the northward of the Twelve-foot Shoal, and may haul up to the westward, where you will find excellent anchorage on soft mud, opposite to the low sandy beach on the middle of Seymour Island, in 10 fathoms. When making for Point Marache care is necessary to avoid the Cerberus, already described, and a shoal with 3 fathoms over it, lying about $\frac{1}{2}$ of a mile S.W. by W. from the said point.

On Point Marache, the eastern side of the entrance to Arachet Harbour, there is a square white building which shows a fixed light at 84 feet above the sea, visible about 10 miles. From it Cranberry Lighthouse bears S. 8° E.; Winged Point S. 5° W.; Ragged Head, north shore of Chedabucto Bay, N. 79° W.; and Little Arachet Head N. 40° W.

The general appearance of the coasts of the Gut of Canso has been already described. On proceeding towards this strait from the Atlantic it should be re-

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marked that the Isles of Canso, on the Nova Scotian side, are surrounded with many low white rocks and breakers. The south shore of Chedabusto Bay is iron-bound and steep-to; its north shore is of red cliffs and beaches. Of the Gut of Canso, from the southern entrance northward, the western shore, throughout, is high, rocky, and steep; the eastern shore low, with beaches. From the north end of the gut, the eastern shore to Jestico, or Port Hood, is distinguished by high, rocky, red cliffs. The opposite shore has several remarkable cliffs of gypsum, or plaster, which appear extremely white. Cape George, the western extremity of George's Bay, is iron-bound and very high; its summit being estimated to be 600 feet above the level of the sea.

PORT HOOD, situated on the western side of Breton Island, is a safe harbour for frigates with any wind, but particularly from the S.W. to S.S.E. round by the northward; the anchorage is in 4 to 5 fathoms, mud and sandy bottom: here you may get both wood and water. The leading mark going in is, Cape Linzee on with the highest sand-hills that are on the N.N.E. side of the beach, bearing N. by E. or N.N.E.: these kept in a line will lead you clear of Spit-head, in 4 to 6 fathoms. On the opposite shore is a long and broad flat, stretching from the shore three-quarters of a mile, named the Dean, to which you should not approach nearer than in 4 fathoms.

At 6 miles S. by W. from Henry Island, the outermost of the islands forming Port Hood, and 13½ miles E. by S. ½ S. from Cape George, is a small shoal of 4½ fathoms, named the Judique Bank, distant from the shore of Breton Island about 2½ miles. It is about three-quarters of a mile in extent, and has 6 to 7 fathoms all round it. Within this shoal, to the southward, are some reefs, which join the shore, from which the outermost part is distant 1½ miles; they are named the Judique Shoals, and have 5 to 6 fathoms just off their outer edge. To go clear of all these dangers, bring the high land of Cape Porcupine, on the west side of the Gut of Canso, open of the eastern shore of the Gut, bearing S. ½ E.

At 4 miles E. by N. from Cape Linzee is the Mabou River, which is wide at the entrance and continues so fully 4 miles, where two streams fall into it. On the eastern side of this river stands the village of the same name, from which to Cape Mabou the bearing and distance are N.E. 6 miles. At 4 leagues N.E. by E. from Cape Mabou lies Sea Wolves Island, which is about 1½ miles in length, and bold-to, and lies 3 miles from the shore, having 16 fathoms water between. At 7 miles, E.N.E., from Sea Wolves Island is the western point of Salmon River, and at 9 miles N.E. from Salmon River is Cape Beaque. At 3 miles to the north-eastward of the cape is the entrance to an inlet, which runs in south-westward, 4 miles, near the head of which is a settlement; its entrance is about half a mile wide, on the eastern side of which is Chetecan Harbour, fit for small vessels. From Cape Beaque to Cape St. Lawrence the bearing and distance are N.E. by E. 31 miles, and from Cape St. Lawrence to Cape North, the bearing and distance are E.S.E., 8 miles. Between these last two capes the land curves in to the southward: near the head of this bight are 12 fathoms water.

CHEDABUSTO BAY.—Although Chedabusto Bay is not in the limits of this section, yet, as it is necessarily traversed by vessels sailing through the Gut of Canso, it will not be considered out of place to make a few remarks on it here.

The bay is wide and spacious, and bold-to on both shores and free from danger. On its southern side, which is high and nearly straight, are Fox Island and Crow Harbour. Fox Island is small and lies near the shore.

At the southern entrance of the bay, a lighthouse stands on Cranberry Island, eastward of Cape Canso. It is an octagonal tower, 60 feet high, standing in lat. 45° 19' 54", and long. 60° 58' 26"; it is painted red and white horizontally, and exhibits two fixed lights, one above the other.

Fox Island Anchorage is one of the greatest mackerel fishery stations in North America during the months of September and October. When sailing in you must pass to the westward of Fox Island, giving it a berth of a quarter of a mile as there are rocks about it both above and under water, with 3 and 4 fathoms close to them. You may anchor in from 4 to 10 fathoms, with the west end of the island bearing from E.N.E. to N.N.E., keeping about midway between the island and the main. The water shoals gradually to the bar, which extends from the island to the shore, and has not more than 6 or 7 feet on its deepest part, drying in one place about one-third of the distance from the island to the main; with northerly and with westerly

PRINCE EDWARD'S ISLAND.

winds, the fishing-vessels ride to the eastward of it in from 2 to 4 fathoms, and shift to the westward with easterly winds.

Crow Harbour, on the south side of Chedabucto Bay, is capable of containing ships-of-war of the fifth-rate, merchant vessels, &c. The bottom is good, and the mark for entering it is to keep the beacon, on the south side of the harbour, in a line with a remarkable fine tree upon the high land, which will lead you clear of the Corbyn Rocks, and also of Rook Island Rock, which lies 25 fathoms to the N.W. point of Rook Island.

Milford Haven, or the Harbour of Guisborough, at the head of the bay, is impeded by a bar, but a vessel of moderate size may pass over it. Within the bar vessels lie in perfect security; the tide, however, sets in and out with great rapidity. The town is, at present, a place of little trade; but it is protected by a battery. A small light is shown, visible 8 miles.

From Manchester round the north shore of Chedabucto Bay, the shores are full of settlements. On the northern side of Chedabucto Bay you will see several red cliffs; this shore is sandy, with regular soundings in the middle of the bay: the water is deep, from 25 to 35 fathoms.

TIDES.—The tide has great strength in the Gut of Canso, running in the narrowest part, at Cape Porcupine, at a rate of seldom less than 4 or 5 miles an hour. Here it flows, on the days of full and change, at 9½ h.

Along shore past Havre Bouché and Antigonish, the tide sets toward Cape George, and, rounding that cape, proceeds towards the N.W.

The tides are materially affected by the winds; and it has been found that, at times, the stream in the Gut of Canso has continued to run one way for many successive days.

PRINCE EDWARD'S ISLAND.

This island is a distinct government, though subordinate to the British commander-in-chief in North America. It is well settled, and possesses a good soil, fit for all general purposes. The island is exempt from fog, while the surrounding coasts of Nova Scotia, Breton Island, and New Brunswick, are frequently covered with it. The climate is generally healthy and temperate, and not subject to the sudden changes of weather experienced in England. The winter here sets in about the middle of December, and continues until April; during which period it is colder than in England; generally a steady frost, with frequent snow-falls, but not so severe as to prevent the exertions of the inhabitants in their various employments. The weather is generally serene, and the sky clear. In April, the ice breaks up, the spring opens, the trees blossom, and vegetation is in great forwardness. In May, the face of the country presents a delightful aspect. Vegetation is so exceedingly quick, that, in July, pease, &c. are gathered which were sown in the preceding month. The country is generally level, or in rising slopes, and abounds with springs of fine water, and groves of trees, which produce great quantities of excellent timber, &c. The greater part of the inhabitants are employed in farming and fishing. Charlotte Town, situated between York and Hillsborough Rivers, on the southern side of the island, is the seat of government.

The coast forms numerous harbours, many of which are, however, fit for small vessels only. The principal loading ports are, on the eastern side, Cardigan Bay, or the Three Rivers, and Murray Harbour; on the S.E., Hillsborough Bay and River; Bedeque Bay on the southern side; Richmond Bay and Holland Harbour on the north.

SOUTHERN COAST.—**CAPE EAST**, composed of red sandstone, is a cliff from 50 to 60 feet high. From the point a reef runs off nearly a mile to 5 fathoms, and two-thirds of that distance to 3 fathoms. Great caution must be exercised in approaching this reef, as the flood-tide sets strongly over it from the northward, and from thence to the south-westward, at the rate of 2½ knots. Great rippings are frequently caused by this tide off the point; and a large ship at night, or in dark weather, should not approach the point nearer than 20 fathoms. The sea is very

heavy off this point in N.E. gales. To the southward of the point, between it and the outlet of East Lake, there is good riding with northerly winds.

To the southward of Cape East there is an extensive bank of 5 to 7 fathoms, extending in a N.N.E. and S.S.W. direction, about $5\frac{1}{2}$ miles. It is named the Milne Bank, and is about $5\frac{1}{2}$ miles long, with very irregular soundings; towards its southern end, and close to the outer edge, there is a shallower part of $4\frac{1}{2}$ fathoms, extending for a distance of $1\frac{1}{2}$ miles, which bears between S. and S. by E. $4\frac{1}{2}$ to $5\frac{1}{2}$ miles from the cape. The mark for the northern end of this shallow ridge is Souris and Dean Points in one, bearing W. by N., and for the southern end, Swanton and Chepstow Points, W.N.W. $\frac{1}{2}$ W.; these marks lead over the ends of the bank in 5 fathoms, but are so distant that they cannot be seen unless it is very fine weather. All round the bank there are 10 to 15 fathoms. It has steep edges, and the sea breaks heavily in strong N.E. gales.

CARDIGAN BAY, or the Three Rivers, lies between Boughton Island and Panmure Island; it is the common entrance to three rivers; namely, Cardigan River, Brudenell River, and Montague River. In the former there are from 7 to 8 fathoms of water, and in the others from 4 to 2 fathoms. George Town stands on a peninsula between the Rivers Brudenell and Cardigan. In these places many large ships have loaded with timber. There is anchorage without, in Cardigan Bay, in from 10 to 6 fathoms, where a pilot may be obtained.

Fisherman's Bank is composed of sandstone, thinly covered with stones, gravel, and broken shells. It is 3 miles long from east to west, by $1\frac{1}{2}$ miles broad, within the depth of 10 fathoms; but the shallow central part, of from 4 to 5 fathoms at low water, covers about half that space. The least water, 4 fathoms, bears from Cape Bear, the nearest point, E.S.E. $\frac{1}{2}$ E. $7\frac{1}{2}$ miles; and there is another patch with 5 fathoms three-quarters of a mile farther eastward. It has deep water all round it. In a gale, this bank should be avoided by large ships.

MURRAY HARBOUR lies close to the north-westward of Bear Cape; and the entrance is narrow and shoal, difficult of access, and with not more than 10 feet of water. Vessels from the eastward, and bound to Murray Harbour, must avoid approaching too near to Bear Cape, as a ridge of rocks extends out a full mile from it.

The bar of Murray Harbour is exceedingly dangerous, having only 10 feet at low water; and easterly winds send in such a heavy sea, that breakers extend all across the bay, upwards of 2 miles. The channel in is buoyed and beacons, but a pilot is at all times necessary to ensure safety. From Bear Cape to the Wood Islands, a distance of 13 miles, the coast is all clear; and near the shore is anchorage in 3 to 4 fathoms.

About a mile S.W. by W. from the Wood Islands are the Indian Rocks, some very dangerous rocks, extending $1\frac{1}{2}$ miles from the shore. There is almost always a rippling on those parts which dry, by which their position is generally indicated. Spring-tides run 3 knots near these rocks, and rise 6 feet; and it is high water, full and change, at 9h. 45m. At night come no nearer their S.E. part than 13 fathoms, as there are 10 fathoms within a quarter of a mile of their southern edge. There is a narrow channel between these rocks and the shore, but of no use to shipping.

The Rifleman Rocks lie $4\frac{1}{2}$ miles to the westward of Indian Rocks, and are one of the greatest dangers in the strait. There are only 5 feet water on the shoalest part, and from its outer point, in 3 fathoms, Prim Point Light bears N.N.W. $\frac{1}{2}$ W., 8 miles. This shoal should always be approached with great care, particularly in foggy weather, as the soundings are very irregular, and there are 16 fathoms within half a mile of it, with a less depth farther out. At night, Prim Light should not be brought to the westward of N.N.W.

The Pinette River, 4 miles eastward of Prim Point, has a rocky dangerous bar, and is fit only for small schooners; the bar is nearly a mile without the entrance, and the shoals run off a mile farther. These shoals are dangerous, and should not be approached nearer than 6 fathoms at low water. At Pinette it is high water, full and change, at 10h.; springs rise 8 feet, neaps 5 feet. There are only 3 feet water on the bar at low water.

WILKINSON BAY.—Prim Point is low, with cliffs 10 to 15 feet high. The lighthouse shows a fixed light, 68 feet above the level of the sea at high water, and may be seen 4 or 5 leagues from the deck; and is of great service to vessels coming

PRINCE EDWARD'S ISLAND.

from the eastward, in guiding them clear of the Pinette and Rifleman Shoals, and enabling them to enter Hillsborough Bay in the night. The lighthouse stands 100 yards within the point. The west extreme of St. Peter's Island bears from it N.W. $\frac{1}{2}$ W., $7\frac{1}{2}$ miles; and the west end of Governor's Island N. $\frac{1}{2}$ E., 5 miles.

A reef of a forked shape runs out to the westward from Point Prim, and has upon it uneven soundings. Its north point, in 3 fathoms, bears N.W. by W. $\frac{1}{2}$ W., 2 miles from the lighthouse, and its western point W. by S., $1\frac{1}{2}$ miles; but to the depth of 5 fathoms it extends out nearly 3 miles. The marks to clear the extreme end in the latter depth are the Block-house Point and the square tower of the Presbyterian Church at Charlotte Town in one, bearing N. by E. $\frac{1}{2}$ E. As these objects cannot always be seen, you must attend to the lead, and you may safely round the reef by it, and the bearing of the lighthouse, in 3, 4, or 5 fathoms, according to your vessel's draught of water.

St. Peter's Island, on the N.W. side of Hillsborough Bay, is about 3 miles in circumference. You may approach the south side of the island within $1\frac{1}{2}$ miles; but there are extensive shoals running off to the eastward from the island, in an E. by N. direction, 3 miles; this spit dries 2 miles from the island. Off the end of the spit lies the Spit-head, a rocky shoal of 8 feet. Close to the eastward of the Spit-head there is a beacon-buoy. The western side of the channel trends north, $2\frac{1}{2}$ miles, from the Spit-head buoy to the Block-house Point at the entrance of Charlotte Town Harbour. About half a mile S. by W. $\frac{1}{2}$ W. of Block-house Point lies the Trout Rock, of 7 feet, having 14 to 16 feet around it; the Government-house and Block-house Point in one, just clears its east side.

Governor Island lies E. by N., $4\frac{1}{2}$ miles, from St. Peter's Island, and S. by E. $\frac{1}{2}$ E., 4 miles from Block-house Point. It is low, partly wooded, and surrounded by shoals to some distance off. This island, lying near the centre of the bay, forms, with its shoals, the eastern side of the entrance of the channel to Charlotte Town Harbour, as well as the western side of the channel leading to Orwell and Pownell Bays. The Governor Shoals extend to the S.W. from the island, and have some shallow patches at a considerable distance from the island; to the westward these shoals run off nearly 3 miles, to 5 fathoms. The Fitzroy buoy lies in 4 fathoms, a cable's length within the end of the shoal; it lies with Battery Point and the square tower of the Presbyterian Church in one, N. by E. $\frac{1}{2}$ E. You may pass on either side of this buoy; but very large ships should pass to the westward of it. The Squaw Shoal, of 12 feet, lies 3 miles N. by W. from the N.W. part of Governor Island, and must also be passed to the westward. Huntly Rock, of 12 feet, lies S. by W. $\frac{1}{2}$ W., $1\frac{1}{2}$ miles from the west end of the island, and must be passed on the west side when going to Charlotte Town.

Hillsborough Bay contains within it the principal harbour and capital town. Charlotte Town is situated on the northern bank of the Hillsborough, a short distance within its entrance, and at the point where the deep water approaches nearest to the shore. It is high water here on the days of full and change at 10h. 45m., and the rise in ordinary spring-tides is $9\frac{1}{2}$ feet, and in neap-tides 7 feet. Ships generally lie off the wharves of the town, where the channel is nearly 10 fathoms deep, and 280 fathoms wide.

A pilot should be procured by strangers bound to Charlotte Town, but if one cannot be obtained outside, the bay may be entered and good anchorage will be found N.W. of Governor Island, until one be obtained. Approaching from the westward with a fair wind, bring the N.W. point of Governor Island and Pownell Point to touch, bearing E. by N., and run from them until the Presbyterian Church comes in one with Block-house Point, bearing N. by E. $\frac{1}{2}$ E.; when you must steer, N.E. by E. or N.E. $\frac{1}{2}$ E., according as it may be flood or ebb tide, until the west side of Government-house and Battery Point come in one, bearing N. $\frac{1}{2}$ E.; these latter marks lead up the deep-water channel to Sea Trout Point, at the entrance of the harbour. If the leading marks cannot be made out, follow the southern and eastern edge of the St. Peter's Shoals to 5 fathoms up to the Spit-head Buoy, then anchor.

When approaching from the eastward with a fair wind, the Rifleman Reef must be avoided by attending to the soundings in the chart, and by not bringing the light on Prim Point to bear to the westward of N.N.W. A large ship should round Prim Reef by the lead in 10 fathoms; a smaller vessel may go nearer with attention to the soundings. When the light bears to the southward of E. by S. $\frac{1}{2}$ S., (the vessel being

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is not less than the low-water depth of 10 fathoms,) or when the north side of Prim Island bears E. by S. the most northern point of the reef will be past, and the current across the bay must be North or N. $\frac{1}{2}$ E. at night or in thick weather; the object being to strike soundings on the southern edge of the bank off St. Peter's Island, and then to follow it to the north-eastward in 5 fathoms, until about 2 miles within the Fitzroy Rock, where there is excellent anchorage off Governor Island, and where the vessel had better wait for daylight. In clear weather, your course from the outer end of Prim Reef, in 10 fathoms, will be N. by E. $\frac{1}{2}$ E., about 5 miles. To run farther up, a pilot is indispensable.

The bearing and distance from St. Peter's Island to Cape Traverse are N.W. $\frac{1}{2}$ W. 20 miles. The shoal water extends off from the land a considerable distance all along this part of the coast, but the lead affords sufficient warning, and in 5 fathoms you will be full half a mile off the outer edge. Tryon River is situated about $5\frac{1}{2}$ miles to the eastward of Cape Traverse, and small schooners enter it with the assistance of the tide, which rises from 6 to 8 feet. The Tryon Shoals dry out $1\frac{1}{2}$ miles off shore, between Tryon and Brookelsby Rivers, and their S.W. extreme, in three fathoms, bears S. by W. $\frac{1}{2}$ W., distant fully 2 miles from Tryon Head, the nearest part of the shore. To clear the S.W. point of the shoals in 5 fathoms, at the distance of a long half mile, an excellent leading-mark is Carlton Head and Cape Traverse in one, bearing N.N.W. $\frac{1}{2}$ W. These shoals may be safely approached to any convenient depth, when farther eastward; yet as the tides meet off them, and cause variations in the strength and set of the streams, the lead should never be neglected when in their vicinity. The ebb from Bay Verte frequently sets over towards these shoals, so that a vessel standing along the land with a scant southerly wind will often find herself dropping to leeward towards them much faster than her usual amount of leeway would lead her to expect.

The bearing and distance from Cape Traverse to Carlton Head are N.N.W. $\frac{1}{2}$ W. 3 miles, and from thence to Sea Cow Head N.N.W. $\frac{1}{2}$ W. 6 miles. Off these headlands the shoal water does not extend beyond 300 fathoms; but in the bays its 3-fathom edge is sometimes twice that distance from the shore; and as the line of 5 fathoms is sometimes quite close to it, the general rule for vessels at night should be not to approach nearer than the depth of 7 fathoms.

BEDEQUE HARBOUR is situated to the northward of Sea Cow Head, and runs in to the eastward between Indian Head and Phelan Point. Indian Point, the south point of entrance, is faced by sandstone cliffs 25 feet high. As the entrance to this harbour is narrow and intricate, a pilot is requisite; although, when inside, there is sufficient water for the largest ships. Until a pilot can be obtained, a vessel should anchor in the roadstead outside, where there is safe anchorage during the summer months in 22 feet at low water, sand and clay bottom, although open to S.W. winds. In approaching from the eastward with an easterly wind, Sea Cow Head may be safely rounded at the distance of two or three cables, and Graham Head may be passed at twice that distance. It is high water in Bedeque Harbour at 10h., the rise being 7 feet in spring-tides and 5 feet in neap-tides.

From Sea Cow Head to Cape Egmont the bearing and distance are N.W. $\frac{1}{2}$ W. 14 $\frac{1}{2}$ miles; between them is a bank of $3\frac{1}{2}$ to $4\frac{1}{2}$ fathoms, which extends fully 3 miles from the shore; when about midway between the points, you may safely keep along the southern edge in 5 or 6 fathoms. A rock, 30 feet high, named the Dutchman, will be seen about a mile to the northward of Cape Egmont, at a cable's length from the shore. Cliffs of sandstone, 50 feet high, render Cape Egmont a remarkable headland: the cape is bold to the southward; but there is shallow rocky ground, half a mile off shore, to the westward, which should not be approached nearer than 6 fathoms at low water.

At $4\frac{1}{2}$ miles to the eastward of Cape Egmont are Fifteen Point Church and Village, which stand near the shore and can be seen at a great distance. A low rock above water, named the Little Dutchman, lies at the extremity of the point, one mile to the eastward of the church; and shallow water extends to the distance of a long mile off shore. Sandbury Cove, 9 miles to the eastward of Cape Egmont, is an extensive place, but nearly dry at low water.

The Egmont Bank (4 fathoms least water,) is narrow, and $2\frac{1}{2}$ miles long in a S.S.E. and N.N.W. direction. Its northern end bears W.N.W. $\frac{1}{2}$ W. 6 miles, from Cape Egmont, and its southern end W. $\frac{1}{2}$ S., 4 miles, from the same headland, and there are as much as $8\frac{1}{2}$ fathoms and a clear channel between it and the cape.

WEST POINT bears from Cape Egmont N. by W. $\frac{1}{2}$ W.; 17 miles; between is Egmont Bay, which affords excellent anchorage with offshore winds in from 4 to 7 fathoms, sand and clay; but vessels should not anchor in less than 5 fathoms anywhere excepting on the N.W. side of the bay, because there is rocky ground, with only $3\frac{1}{2}$ fathoms water off the river at its head, lying just within the 5-fathom line, and at the distance of 3 miles from the shore, whilst along the eastern shore 5 fathoms would be too near the edge of the shoals. On the northern shore of the bay, Wolfe and Brae Rivers are sandy places, dry at low water.

The Percival and Enmore Rivers are only fit for boats and small craft; and the approach to them is very difficult. On the east side of the bay, from the entrance of these rivers to within 3 miles north of Cape Egmont, the shallows run off a full mile to the depth of 3 fathoms; $6\frac{1}{2}$ fathoms is near enough for a ship to approach this side of Egmont Bay. Jacques Church, 5 miles north of Cape Egmont, is conspicuously situated.

The West Point consists of sand-hills 13 feet high, and there is good anchorage under it with winds between north and east, in 4 fathoms, bottom of sand. The West Spit runs off in a N.N.W. direction, 3 miles from West Point; on some parts of it there are only a few feet water, on a bottom of sand; the northern part of this trends N. by E., parallel with the shore, with $2\frac{1}{2}$ to $3\frac{1}{2}$ fathoms on it. Between the spit and the land there are from 6 to 4 fathoms, open to the northward, but no outlet to the southward. To avoid this opening when coming from the northward, and to keep without the West Reef, come no nearer the shore than 12 fathoms.

The West Reef is a narrow rocky reef, 4 miles long, in a north and south direction; its soundings are irregular, being from 6 to $2\frac{1}{2}$ fathoms: the least water near the middle is 16 feet, and there are 18 feet near the south end; this latter part bears N.W. $\frac{1}{2}$ W., $3\frac{1}{2}$ miles from the West Point, and is $2\frac{1}{2}$ miles from the nearest land; its north end is $4\frac{1}{2}$ fathoms is $3\frac{1}{2}$ miles from the land. This reef is very dangerous to ships rounding the West Point at night, or in foggy weather, as the deepest water is near its outer edge, having 13 fathoms close to it in one part. At night, to avoid it with certainty, the soundings should be taken from the main land; and by keeping off the edge of the bank in 9 or 10 fathoms, you will pass 3 miles to the westward of it; near the outer edge of the bank, the tides run sometimes $2\frac{1}{2}$ knots, causing a heavy sea, on a weather tide.

The **NORTH POINT** is low, with red cliffs. Vessels should always give this point a wide berth at night, or in foggy weather, on account of the reef which runs off from it to the north-eastward fully 2 miles to 5 fathoms, and $1\frac{1}{2}$ miles to 3 fathoms; without the 5-fathom line rocky uneven soundings extend out to 10 fathoms, sometimes causing a dangerous breaking sea.

From the West Point to the North Point the land trends about N.N.E., 6 miles, to Cape Wolfe, then N.E. by E., 27 miles. This coast is unbroken, and chiefly composed of red clay and sandstone cliffs. The shallow water runs off some of the points a considerable distance, so that large ships at night should keep off in 11 or 12 fathoms, when running along this part of the coast.

NORTHERN COAST.—Along the northern shore of the island the anchorage generally, excepting a few places off the bars of the harbours, is very bad, the bottom being of red sandstone, thinly covered occasionally with sand, gravel, and broken shells. The entrances of the harbours are narrow between sand-bars, with dangerous bars of sand at various distances from the shore. They are only fit for small vessels, with the exception of Richmond Bay and Cascumpeque, and even these could not be safely run for in bad weather, and with a heavy sea running, at which time the breakers on their bars extend quite across, leaving no visible channel. The northern shore of the island forms a great bay, out of which the set of the tides and the heavy sea render it very difficult to extricate a ship when caught in the N.E. gales, which frequently occur towards the fall of the year, and occasionally blow with great strength and duration, at such times proving fatal to many vessels.

From North Point to Cape Kildare the bearing and distance are E. by W. $\frac{1}{2}$ W. 11 miles. The River Tignish lies about midway between, and has only 3 feet in its entrance at low water, but it affords shelter for fishing-boats. Between North Point and Cape Kildare there are rocky irregular soundings, of 3 to 5 fathoms, frequently extending 3 miles off shore.

CASCUMPEQUE HARBOUR is situated 5 miles S.W. $\frac{1}{2}$ W. from Cape Kildare.

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Several very high sand-hills, $3\frac{1}{2}$ miles to the southward of its entrance, distinguish this harbour, as there are no high sand-hills to the northward of the harbour. The entrance is 180 fathoms wide, and there are two sand-bars, with 10 feet on them at low water, upon which account it is absolutely necessary for a stranger to be provided with a pilot. It is high water here on the days of full and change of the moon at 5h. 40m; rise in ordinary spring-tides is 3 feet, and in neap-tides 2 feet; but this is not regular, and 12 feet over the bar at high water is all that can be safely reckoned upon on any particular day, unless when strong easterly winds raise the water a foot or more in all the harbours on this coast. At certain seasons the tides are very irregular. The morning tides in summer are much higher than the evening tides, which sometimes disappear, leaving only one day tide during the 24 hours.

RICHMOND BAY is of great extent, running in 10 miles to the S.W., and contains seven islands and a number of creeks and rivers, some of which are navigable for vessels of considerable burthen, and all of them by small craft and boats. Grand River, where there are fine settlements, can be ascended a distance of 7 or 8 miles. There are also settlements at Port Hill, in the N.W. part of the bay within Lennox Island, a settlement on Lennox Island, and large settlements at the head of the bay.

MALPEQUE HARBOUR, situated on the eastern side of Richmond Bay, is very superior to any other on the northern coast of the island. There are generally 14 to 16 feet over its bar at low water, and from 18 to 19 at high water, ordinary springs, with space and depth enough within for any description and number of vessels. The principal entrance is between Fishery or Billhook Island to the northward, and the Royalty Saddle, which dries out full half a mile from Royalty Point. Just within this entrance the anchorage is good and well sheltered.

The West Gully is the other entrance; it lies on the N.W. side of Fishery or Billhook Island, and is so narrow and intricate as to be only fit for boats, or very small craft, although it has 9 feet on its dangerous bar $1\frac{1}{2}$ miles out from the shore.

The Bar of Malpeque runs off from Fishery or Billhook Island, E. by S., $2\frac{1}{2}$ miles; it then runs to the southward, so as to join the shore to the eastward of Cape Aylesbury. This bar is exceedingly dangerous in bad weather, the bottom being sand-stone; then all signs of a channel are obliterated by heavy breakers. The northern part of this bar, to the distance of $1\frac{1}{2}$ miles to the eastward of Billhook Island, is very shallow, having in some places only 4 feet at low water.

Vessels may anchor outside the bar, in 7 to 5 fathoms, to wait for a pilot, and all strangers should endeavour to obtain one, and not attempt to take the bar in blowing weather.

The tides run the strongest at the entrance to Richmond Harbour, and here springs run $2\frac{1}{2}$ knots; within the bay they are much weaker. It is high water here on the days of full and change, at 6h.; springs rise about 3 feet, neaps 2 feet. N.E. winds raise the tides, and westerly winds the contrary. The morning tides are the highest in summer months.

Between Richmond Bay and Cape Tryon the coast is nearly straight and free from detached dangers; but a large ship should not approach nearer than 6 or 7 fathoms, as the shallow water runs out a considerable distance. Cape Tryon is a remarkable cliff of red sandstone, 110 feet high; at $1\frac{1}{2}$ miles, S.S.E., from the cape, is Grenville Harbour.

GRENVILLE HARBOUR.—The entrance to this harbour is one-third of a mile wide, and 3 fathoms deep; it is situated at the north-western extremity of a long range of sand-hills, the highest of which is 55 feet above high-water mark. The harbour is only fit for small vessels, as there is a shifting sand-bar, over which there are sometimes only 5 feet water, and the channel is narrow. The bar extends out to the distance of two-thirds of a mile from the entrance, and the shallow water one mile, at which distance there are 5 fathoms over sandy bottom.

At 8 miles S.E. $\frac{1}{2}$ E. from Cape Tryon is Cape Turner, the highest cliff on the island, being 120 feet high.

GREAT RUSTICO HARBOUR.—This harbour has two narrow sandy entrances, on either side of McAulain Island, which are distant 3 and 5 miles respectively to the S.E. of Cape Turner. Very dangerous shifting bars of 4 to 6 feet, and extending three-quarters of a mile from shore, render this place only fit for small schooners. Two buoys, whose positions are changed as occasion requires, point out the line of deepest water over each of these bars.

PRINCE EDWARD'S ISLAND.

At 3 miles S.E. from Cape Turner is Stanhope Point, on which there is a sand-hill 80 feet high. A dangerous reef runs out from it three-quarters of a mile to the depth of 3 fathoms, and one mile to 5 fathoms. There is only one foot of water on some parts of this reef, at a distance of $\frac{1}{2}$ a mile from the shore.

At half a mile to the westward of Stanhope Point lies the narrow sandy entrance of Little Rustico Harbour, which is only fit for boats.

TRACADIE HARBOUR is situated 13 miles, S.E. by E. from Cape Turner, and 4 miles from Stanhope Point. A remarkable range of sand-hills, 50 or 60 feet high, lies on the east side of its entrance. The bar of sand shifts in heavy gales, and extends out three-quarters of a mile from the entrance, with 5 to 9 feet on it. The place is only fit for small craft, and even they require the assistance of buoys, and favourable weather, to take the bar with safety. Within the sand-bar the harbour is 3 miles wide, and 2 $\frac{1}{2}$ fathoms deep.

SAVAGE HARBOUR lies 9 miles to the eastward of Tracadie, and has only 3 feet at low water over its bar, and is only fit for very small craft.

ST. PETER'S HARBOUR lies 3 miles farther to the eastward, and is of considerable extent. Although it runs in 7 miles ~~to~~ a S.E. by E. direction, with a depth in some parts of 3 fathoms, yet as its bar of sand has only 5 feet over it at low water, the harbour is only fit for small vessels: the outer edge of the bar, in 3 fathoms, is distant two-thirds of a mile from the shore. The channel through the bar, in which this depth of 5 feet at low water could be carried, is liable to shift in heavy gales. It is high water here on the days of full and change of the moon, at 8h. 30m.; springs rise 4 feet, neaps 3 feet.

From St. Peter's Bay to Cape East the coast runs E.S.E. 33 miles. The coast is unbroken and formed of red sandstone cliffs. There are in general 10 fathoms water within one mile of the shore of this division of the coast; and as the bottom is of sandstone, the anchorage is consequently bad.

NORTHEASTERN STRAIT.—TIDES.—Of the tides in the Northumberland Strait, Capt. Bayfield says:—

The principal tide-wave, after entering the Gulf between Cape Breton and Newfoundland, sends off, laterally, waves to the S.W., on either side of the Magdalen Islands. The first of these, which I shall call the eastern wave, coming from between those islands and the western shore of Cape Breton Island, arrives at the eastern entrance of the Strait soon after 8 o'clock, and proceeds to the westward, making high water later in succession from east to west as far as Pictou, which it reaches at 10 hours. At the same nominal hour, but 12 hours later, the other or western wave arrives at Cape Tormentine, having been retarded by the long detour which it has taken to the northward and westward of the Magdalen, and by the great extent of comparatively shallow water which it has passed over. Its subsequent progress to the S.W. This wave makes high water later in succession at places along the eastern coast of New Brunswick, as we proceed to the southward; and, after entering the Strait from N.W. to S.E., contrary to the course of the other or eastern wave.

Thus, it is high water on the full and change days at Miscou at about 2 $\frac{1}{2}$ hours; at Point Escuminac and the North Point of Prince Edward Island forming the western entrance of the Strait, soon after 4 hours; at the west point of Prince Edward Island at 6 hours; at Shediac 8 hours; and at Cape Tormentine 10 hours. When, therefore, the preceding tide-wave arrives between Cape Tormentine and Cape Traverses. They then meet, and combine to make high water at the same hour, namely, 10 hours, or a little later in the harbours, all over the central portion of the Strait from Pictou to Cape Tormentine; causing also an amount of rise of the tides everywhere more than double, and in some of the harbours nearly three times as great as that which occurs at either entrance of the Strait.

The eastern flood stream enters the Strait from the N.E., running at the rate of 24 knots round the East Point of Prince Edward Island, but is much weaker in the offing and over towards the southern shore. It runs round Cape Bear, and with an increasing rate along the land to the westward; is strongest in the deep water near the land, and runs at its extreme rate of 3 knots close past the Indian Rocks and Rifleman Reef. Losing strength as it proceeds farther to the N.W., it is quite a weak stream when it meets the other flood stream off the Tryon Shoals. This eastern flood stream is not so strong along the southern or Nova Scotia shore, unless it be in Caribou

Channel for a short space near Caribou Reef; and it is weak, not generally exceeding half a knot; in the middle of the strait.

The other or western flood stream comes from the northward, along the west coast of Prince Edward Island, sweeping round the West Point, and running strongest in the deep water near the West Reef, where its rate is $2\frac{1}{2}$ knots. Over towards the New Brunswick shore its rate seldom exceeds $1\frac{1}{2}$ knots, and this is its average rate as it pursues its course to the S.E., until we arrive near Cape Tormentine, whence the strongest part of the stream runs near the Jourmain Shoals, and thence to the southward round and over the dangerous Tormentine Reefs with a great ripple, and at the rate of 3 knots.

From this account of the tidal-streams it appears that a fast-sailing vessel, under favourable circumstances, might enter the strait with the flood, and, arriving at Cape Tormentine soon after high water, might there take the ebb, and thus have the stream with her, with but slight interruption, from one end of the Strait to the other. Or, a vessel beating with the flood, might so time her arrival at the same point, as to be able to continue her voyage in the same direction with the ebb.

The following directions for navigating the Northumberland Strait are by Capt. H. W. Bayfield, R.N.:

"Vessels bound to Miramichi, and the ports in the Strait to the westward of Cape Tormentine, after entering the Gulf on either side of the Island of St. Paul, usually pass to the southward of the Magdalens, and round the North Point of Prince Edward Island. The reef of this last-named point is exceedingly dangerous, and the lead should be kept constantly going when approaching it at night or in foggy weather; bearing in mind the probability of having been previously set to the southward in crossing from the Magdalens, especially if the wind has been from the northward.

Under the same circumstances, after rounding the North Point, the course should be shaped well to the westward, so as to ensure clearing the West Reef, which should be passed by the lead, running along the edge of the bank off the New Brunswick shore. Proceeding south-eastward, after having passed the West Reef, the lead will afford sufficient guidance along either shore, reference being had to the soundings, until we arrive near the narrow part of the Strait at Cape Tormentine.

There, if the vessel be bound farther to the eastward, the shore of Prince Edward Island should be preferred, the soundings on that side being quite sufficient to guide the vessel past Carleton Head, Cape Traverse, and more particularly the Tryon Shoals, if the irregular tides off the latter, and the frequent set of the ebb stream towards them, be remembered. The tides, however, in this narrow part of the Strait, are not very strong along the Prince Edward Island shore, off which the anchorage is good, in the event of the wind failing; whilst on the opposite shore there is deep water, and very strong tides close to the Jourmain and Tormentine Reefs.

If the wind be adverse, or scant from the southward, with the ebb tide running, a stranger had better not attempt this narrow passage at night, or when the land cannot be seen. Under such circumstances, it is recommended to anchor to the westward of Cape Tormentine, till daylight or a change of tide renders it less hazardous to proceed. Vessels bound to ports in the eastern division of the Strait, enter the Gulf either through the Gut of Canso or by the Island of St. Paul. In the first case, the bearing of the light at the northern entrance of the Gut will guide them up to Cape George, from which, if bound to Pictou, there will be no difficulty in running along the land to the westward, if due attention be paid to the soundings, and afterwards to the bearing of Pictou Light. If the weather be thick, or the light not seen, beware of the reef off the east end of Pictou Island, which should not then be approached nearer than the depth of 10 fathoms, especially if the flood-tide be running.

Vessels approaching from St. Paul's, and entering the Strait at the East Point of Prince Edward Island, should not approach the latter nearer than 20 fathoms in dark nights or thick weather.

Cape Bear and its reef should not be rounded in less than 15 fathoms; under the same circumstances; and then, if bound anywhere to the westward of Pictou, the vessel should be kept more over towards Pictou Island and the southern shore, where the soundings will guide her, till the Indian Rocks and Rifleman Reef are passed. The Light on Point Prim will greatly assist in passing the last-named danger, after which the lead will again afford sufficient guidance along the Prince Edward Island shore, past the Tryon Shoals, and through the Strait to the north-westward.

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On the opposite, or Nova Scotian shore westward of Pictou, the principal dangers to be avoided are the Middle Shoals, between Pictou Island and Caribou, Amet Island and Shoals, and Waugh Shoal. The approach to all these is sufficiently indicated by the soundings, and therefore a constant use of the lead, and a careful reference to the chart, will enable the intelligent seaman to pass them at all times in safety; and also to conduct his vessel to any of the harbours of this coast, where pilots will readily be obtained."

PART IV.

RIVER ST. LAWRENCE.

NORTHERN SHORE, FROM THE RIVER ST. JOHN TO THE SAGUENAY.

From the River St. John the coast runs W.N.W. 69 miles, to the River Moisie, and, although appearing bold from a distance, it should not be closely approached, on account of the many dangerous rocks lying nearly a mile from the shore. Between Magpie and Basin Rivers 20 fathoms are considered to be a sufficiently near approach to the shore, and from thence to Point St. Charles 40 fathoms, as the rocks are steep-to, and have this depth within a mile of them.

RIVER ST. JOHN.—The entrance of this river lies in lat. $50^{\circ} 17' N.$, and long. $61^{\circ} 28' 30'' W.$, and is 130 fathoms wide; but immediately within it increases to half a mile, and then narrows again, running several leagues up the country between high cliffs of sand and gravel, over clay, with small sandy islands occasionally. A bar, shifting with every gale of wind, lies at the distance of half a mile from the entrance, having 7 or 10 feet on it at high water, according as it may be neap or spring-tide; it is rendered quite impassable during southerly and westerly winds, which cause a very heavy surf. Good anchorage may be procured outside the bar, to which you may safely approach by the lead. At 11 miles to the north-eastward of the entrance is Mount St. John, an isolated saddle-backed hill, 1416 feet above the sea at high water, which forms an excellent mark for the river.

At the distance of 8 miles, W.N.W., from the River St. John is Magpie Point, between which lies Magpie Bay, where good anchorage may be obtained with off-shore winds, in a moderate depth of water. Magpie River disembogues in the northern part of Magpie Bay, and is a rapid stream, with a very narrow entrance. Nearly a mile west of the river is a rocky shoal at a quarter of a mile from the shore, on which the sea breaks.

At $8\frac{1}{2}$ miles, W.N.W. $\frac{1}{2}$ W., from Magpie Point is Ridge Point, off which a long narrow ledge, of 4 to 6 fathoms, extends $4\frac{1}{2}$ miles to the westward, having within it one large and several small islands. This ledge is rocky and steep-to, and at times the sea breaks very heavily on it, occasioning great risk to large vessels.

About 11 miles farther to the westward is Sawbill River, easily recognized by the remarkable barren hills on either side of it, and also by the clay cliffs just within the entrance. It affords shelter to boats and small coasters, and can only be entered in very fine weather. About 9 miles to the southward of this river there is a bank of sand, gravel, and broken shells, of 36 to 50 fathoms water, on which cod-fish abound: between it and the shore are upwards of 60 fathoms.

About $7\frac{1}{2}$ miles to the westward of Sawbill River is the Shallow River, affording shelter for boats, which can only enter when there is no surf. Off this, as well as off Sandy River, $2\frac{1}{2}$ miles farther westward, there are several rocks, both above and under water, some of which lie fully half a mile from the shore.

Manitou River.—This river lies $4\frac{1}{2}$ miles, N.W. by W., from Shallow River, and 35 miles westward of St. John's River, and is the largest on this part of the coast. It may be readily known, even at a distance, by two remarkable patches of clay cliffs, one of which is close to the eastward and the other about a mile to the north-westward of the entrance. At a short distance within the entrance of the river is one of the

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most magnificent waterfalls in Lower Canada, which falls 113 feet perpendicularly in one unbroken sheet of water. In fine weather, and with off-shore winds, good anchorage may be procured off the river in 15 fathoms, with the entrance bearing N.E. $\frac{1}{2}$ E.; but small vessels may anchor farther in-shore. A small rocky shoal lies W. by N., $2\frac{1}{2}$ miles, from the entrance of the river, about three-quarters of a mile from the land.

About 10 $\frac{1}{2}$ miles from Manitou River is Bason River, having a spit of large stones running out about 150 fathoms from its east point of entrance. It is only fit for boats, and there are rapids within a short distance of the entrance. At $1\frac{1}{2}$ miles from this river is Cape Cormorant, $5\frac{1}{2}$ miles from which is Blaskowitz Point, having between some islets joined to the shore at low water, off which at about a mile from the shore is the Cormorant Reef, having 12 feet on it: this reef bears W. $\frac{1}{2}$ N., $2\frac{1}{2}$ miles, from Cape Cormorant, and lies with Points Blaskowitz and St. Charles in one, W.N.W. nearly, so that vessels on approaching should keep the latter point open. The coast to Cape St. Charles is lined with rocks, and must have a good berth given to it.

Point St. Charles forms the eastern point of Moisie Bay, and has a dangerous reef running off it, some of the rocks of which are above-water, but the outermost patches are always covered; these latter lie S.S.W., three-quarters of a mile, from the point. This reef is so steep that there is no warning by the lead and very little by the deep-sea lead. Vessels beating here should guard against getting becalmed to the westward of this reef, lest the heavy S.W. swell should carry them towards the reef, for the water is too deep to anchor until close to the breakers.

Moisie Bay is about 11 miles in extent, with a depth of 50 or 60 fathoms between Point St. Charles the eastern point and Point Moisie the western point. Trout River is nearly in the centre of the bay. The eastern shores of this bay are rocky; but the western shore, from Trout River to Moisie River, is a bold sandy beach. Shelter for small boats is afforded in Seal House Cove on the eastern side of the bay.

At Point Moisie is the Moisie River, which, although larger than the River St. John, is so much obstructed by sand-bars that boats cannot ascend at low water. From the eastern point of entrance a bar runs half a mile and dries at half-tide, close to which are 40 fathoms of water. A bank runs off, in a westerly direction, $3\frac{1}{2}$ miles, from Moisie Point, and forms a large triangular shoal, of from 1 to 2 fathoms, having near its S.W. extremity the Moisie Rock, of only 9 feet, which lies $1\frac{1}{2}$ miles from the shore, and is very dangerous, being as bold as a wall on the south and S.W. sides, and can generally be seen in fine weather, from the change in the colour of the water. When a vessel is standing towards this rock, she should tack when the north side of Manowin Island comes on with the south side of Great Boule Island, bearing W.N.W. $\frac{1}{2}$ W., as then she will be a mile from the edge of the shoal.

At 9 miles, N.W. by W., from the Moisie Rock is Sandy Point, having Boule Bay between, into which vessels should not venture, on account of its exposure to the southerly swell. Near the centre of the bay are the East Rocks, always above water, low, and bare of trees.

SEVEN ISLANDS BAY.—Off the entrance of the bay are the islands, giving the name to the bay, which are high, steep, and thinly wooded, and may be seen 7 or 8 leagues off. The two easternmost islands are named the Great and Little Boule, and are separated by a narrow channel, which is considered to be unsafe, on account of the baffling winds and strong tides. Westward of these and parallel to them are the Baque Islands, and to the south-westward of these are Manowin and Carousel Islands. Thus there are altogether six islands; and they are all of considerable height; the seventh island, so called, is the peninsula forming the western part of the bay, which, at some distance, appears like an island, and is estimated to be about 730 feet high. Between Manowin and the peninsula are the West Rocks, which are small and low.

Seven Islands Bay is $2\frac{1}{2}$ miles wide. A fine broad, bold, sandy beach extends for three miles northward from the east point of the bay to the entrance of the principal river, near which stands the Hudson Bay Company's trading post. You cannot see these houses from the outer parts of the bay; but there is a woody store on the beach, off which vessels usually anchor. This fine bay is sufficiently extensive for the largest fleets to lie in perfect safety, and so nearly land-locked as to resemble a lake.

There are three channels leading into this bay, the eastern, middle, and western channels. The eastern channel, between Sandy Point and Basque Island, is seldom used, on account of a rock in its centre, which is only covered at high tides; a reef also runs off to the eastward of the rock, one-quarter of a mile, with 6 to 9 feet on it. The principal and best channel is the middle one, between Carouzel and Manowin on the west, and the Basque Islands on the east; you leave the West berth, to avoid a reef that runs off 120 fathoms. The course through the middle channel into the bay is North, by compass.

The west channel, though much narrower than the middle one, is also free from danger, being three-quarters of a mile wide, between Point Croix and the West Rocks, off which there are two or three rocks at the distance of a cable's length to the northward; therefore give the West Rocks a berth of 2 cables' length in passing. The ebb-tide is turned off towards these rocks by Point Croix, which must be attended to. No leading-marks are necessary; for simply by giving the shores a berth of 3 cables' length in every part, you may enter the bay with safety, even with the largest of ships. With a scant wind from the north-westward, this channel is preferable to the Middle Channel, as it will save a good deal of beating into the bay. The ground is not fit for anchorage until you are well within the bay.

Captain Bayfield says:—The best berth for a large ship to lie at anchor in Seven Islands Bay is with Sandy Point and the north side of Little Boule Island in one, and with Point Chasse on with the west side of the West Rocks. The N.W. extremity of the sandy beach near the entrance of the river will then bear N. by E. $\frac{1}{2}$ E.; the vessel will be in 9 fathoms at low water, over clay bottom, nearly 1 mile from the sandy beach to the eastward, and nearly three-quarters of a mile from the 3-fathom edge of the shoals, which occupy the northern part of the bay. Smaller vessels may lie closer to the shore, in 6 fathoms at low water, which is as near as a vessel ought to anchor. In this anchorage there is a considerable swell with a strong southerly wind, but never enough to endanger a vessel, although sufficient to prevent boats from landing. Those that may wish to lie perfectly smooth, may anchor in the S.W. part of the bay, in 13 fathoms, soft clay bottom, where they will be perfectly landed.

Outside the islands the water is very deep, and a vessel is enabled to stand in almost close to their rocky shores.

From Seven Islands Bay the coast runs to the S.W. by W., 60 miles to Point de Monte, and is in general of moderate height, with a few hills back in the country. The shore, generally, is clear of danger, and may be approached by the deep-sea lead.

The first river met with after leaving Seven Islands Bay is St. Margaret's River, which is about 8 miles from Carouzel Island. On either side of the river's mouth is a sandy beach, and a bar extends three-quarters of a mile off the entrance.

St. Margaret's Point, on the west side of the bay into which the river falls, is of moderate height, and has a reef extending one-third of a mile off, which is bold-to, having 70 fathoms within a short distance of it, so that little or no warning is given by the lead.

About S.W. by W. $\frac{1}{2}$ W., 16 miles, from St. Margaret's Point is Great Cawee Island, having a low coast between, bordered with small islets and rocks close in-shore; but this part may be approached by the lead to 20 fathoms: the deep-sea soundings off this part of the coast are very irregular. Great and Little Cawee Islands are high; and bare of trees. On the N.W. side of Great Cawee Island there is a bay, in the mouth of which anchorage may be found at a cable's length from the island, with shelter from W. by S. round to N.E. and easterly; but S.W. winds blow right in, and send in a heavy sea. The entrance to this place is dangerous and intricate, and too small for large ships, yet it might be of use to a vessel in distress.

To enter this anchorage from the eastward, steer N.W., past the N.E. side of Great Cawee Island, going not nearer than half a mile, to avoid the shoal off the mouth of the cove, until the point of the mainland to the westward opens clear of the north side of the island. Then steer for the point of the main land, keeping it midway between the north side of the island and the large rocks to the northward of it. When you arrive between the rocks and the island, haul into the mouth of the small bay, which you will see on the N.W. side of the latter, and anchor in 7 fathoms at low water. There are 12 or 13 fathoms in the middle of the channel, and upwards of 9 fathoms can be carried through.

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In running for this anchorage from the westward, a vessel may pass between Little Cawee and the main, keeping in mid-channel; but the better and safer way is to pass between Little and Great Cawee Islands, hauling close round the west point of the latter into the anchorage. In this route there is nothing in the way, excepting the round rock to the south-westward of the south point of the Great Cawee Island, which can always be seen.

The tides run fairly through between the islands and the main land, at a rate seldom exceeding $1\frac{1}{2}$ knots, and generally of much less.

At 11 miles S.W. by W. from Great Cawee Island is English Point, between which there is a good open roadstead named Lobster Bay, affording plenty of accommodation for the largest vessels. On the west side of the bay are the Crooked Islands, between which and the reef extending off the eastern point of the bay, named Point Sproule, there is good anchorage in 5 to 12 fathoms, on fine clayey sand, well sheltered from S.W. round by west and north to East; but all winds from East, round by south to S.W. go right in with a heavy sea and thick weather.

About $1\frac{1}{2}$ miles to the westward of the Crooked Islands is Pentecost River, having a narrow entrance with 7 feet at low water. It is navigable for boats a distance of $2\frac{1}{2}$ miles, and at high water, and the depth increases to 12 or 16 feet, small coasting vessels may run in and out. Hence to English Point the shore consists of a fine bold sandy beach.

English Point has a shoal of low ground extending off it to the distance of about one-third of a mile, which is bold to the west and south-east sides. About 2 miles S.S.W., from the point is Egg Island, lying between them the N.E. Reef and North Rocks. Egg Island is low, narrow, without trees, and about three-quarters of a mile long, in a N.N.E. $\frac{1}{2}$ E. direction. The North Rocks, always above water, lie 4 cables' length N.N.E. from the island, and form a black, low, narrow reef, 3 cables' length in the same direction, bold towards the main and likewise towards English Point. A reef, under water, runs out from these rocks in a S.S.W. direction, $2\frac{1}{2}$ cables' length, leaving a very narrow channel between them and the island, with only 3 fathoms in it. The N.E. Reef runs off 6 cables' length from the N.E. part of Egg Island, and is the greatest danger on the coast between Point de Monte and the Seven Islands; some of the rocks are awash at low tides.

The island and the reefs form a natural breakwater, $1\frac{1}{2}$ miles long, in a N.N.E. direction: the northern end is three-quarters of a mile from the main land, and the southern nearly a mile. Within, and westward of this breakwater, is good anchorage; but it is very much narrowed by flats running off from the main, which, opposite to the north end of Egg Island, diminish the width of the channel to 370 fathoms. The best anchorage is to the S.W. of this narrow part, in 9 fathoms, sand. As the water is deep towards the island and reefs, a ship should have a good scope of cable with a westerly wind, lest the anchor should start, and you drive on the rocks before a second anchor can be let go; with easterly winds you drag up hills and there is not much danger of the anchor starting. The best anchorage is at the S.W. end of Egg Island bearing S.E. by S., and the inner side of the North Rocks N.E., in which position you will lie sheltered from all winds except those between S.E. round by south to S.W., and even with them, a vessel may find shelter by changing her berth more to the eastward, in 7 fathoms, sandy bottom.

There is nothing in the way when entering this anchorage from the southward and westward, the S.W. end of Egg Island being bold. If you intend running through between the island and the main, stand to the northward to 5 or 9 fathoms, or until English Point is open half a point to the northward of the North Rocks; then steer for English Point, giving the inner side of the North Rocks a berth of a cable's length, until you have passed them one-third of a mile; you will then be in 7 fathoms and may haul out to sea, not going to the southward of S.E. by E. till clear of the N.E. reef. You may run through this channel from the eastward, by reversing the directions.

About $2\frac{1}{2}$ miles W. by S. from Egg Island is a small stream named Calumet River. From hence to the southward, for the distance of about a mile, the shore is bordered by reefs of large stones having 15 fathoms off them at the distance of half a mile to seaward. To the S.W. of these reefs, as far as Trinity Bay, the coast is free from danger, and may be approached with safety if due caution be used. There are 30 fathoms at the distance of half a mile to 1 mile, and 40 fathoms from 2 to 3 miles from the shore. S.W. by S. from Egg Island, distant $8\frac{1}{2}$ miles, is Caribou Point, a small rocky penin-

sula, having sandy coves on either side of its isthmus, in which pilot boats find shelter, and often remain on the look-out for vessels.

Trinity Bay.—This bay is 5 miles to the southward of Caribou Point, and affords safe and convenient anchorage for vessels unable to beat round Point de Monte. Pilots are generally found waiting in the bay for vessels when the wind is from the westward, but in easterly winds they take shelter in St. Augustine Cove $1\frac{1}{2}$ miles to the westward of Cape de Monte.

In the N.E. point of the bay are two rocks, the northern one of which dries to the main with spring ebbs, but the southern one dries nearly a quarter of a mile to the southward of the point. This bay is 8 miles round, and a river of excellent water falls into it; another stream may also be found about half a mile to the westward of the west point of the bay. Wood is abundant.

To sail into Trinity Bay, either from the S.W. or N.E., come not nearer either shore than 15 fathoms until the bay opens; then haul in, and anchor in 7 fathoms, with the lighthouse on Point de Monte bearing S.W. by W. Small vessels may anchor in 3 fathoms, just within the reef, the western point bearing S.W.; and large vessels may take a berth a little farther out.

POINT DE MONTE.—This point is of moderate height, and has a lighthouse upon it, showing a bright fixed light, 100 feet above the sea, visible 6 or 7 leagues off. A ledge of rocks, having 9 or 10 feet water on it, lies S.W. from the lighthouse and S.E. from the extremity of the point, extending half a mile from the shore, and there is another rock with two fathoms on it at half a mile S.S.W. from the lighthouse. A third rock, with a little more water over it, is said to lie E.S.E. from the lighthouse at nearly the same distance. In approaching these shoals great caution is necessary; 15 fathoms being considered to be as near as safety will permit.

Vessels being to the eastward, in a dark night, when the land cannot be seen, should tack when the light bears W.S.W., or even W. by S., if they are as near as Trinity Bay. Vessels to the westward of the light should tack as soon as it bears E. $\frac{1}{2}$ N.; when it bears east, it will be shut in by the land.

At $1\frac{1}{2}$ miles to the westward of Point de Monte is St. Augustine Cove, which is a place of shelter for boats, and where pilots may occasionally be found.

CAPE ST. NICHOLAS lies 17 miles W. by N. from Point de Monte. About half way between is Goodboot River, which is available only for boats. At 3 miles before reaching the cape is St. Nicholas Harbour, affording excellent shelter. The entrance is 75 fathoms wide and has 14 to 17 feet at high water, but at low water spring-tides there are only 5 feet. The shoals on the east side dry out so far as to leave a channel only 30 fathoms wide, in which are a few large stones which can be seen and avoided if the tide be not high enough to pass over them. In the deepest part of the harbour are $9\frac{1}{2}$ fathoms. From Cross Point, the western point of the entrance, which is bold, the shoal water extends across a small bay to the westward of the point, 400 fathoms, and off shore 100 fathoms. The anchorage between the shoals off the harbour's mouth is too much confined for large ships, being only about 3 cables' length in width, but the ground is good and depth moderate; here you may anchor, and prepare for warping in.

To enter the harbour bring the end of Cross Point to bear N.N.E., then steer so nearly for it as to leave it not more than 50 nor less than 30 yards distant on the port hand. If the wind will allow, continue to run in, at the same distance from the shore on the west side, until you deepen your water; but if you lose the wind, or be met with light baffling flaws out of the harbour, as often happens in westerly winds, send a line her way, and warp into deep water. The shoal water, which may be called the bar, and commences at Cross Point, continues for 300 fathoms within it, and the channel is rendered narrow by shoals off the eastern side, for an equal distance farther up the harbour. In order to have as much room as possible, a vessel should anchor farther in than the three large rocks, which will be seen on the eastern side of the harbour. To run out again, a vessel must wait for a N.W. wind, or take advantage of the land-wind in the early part of the morning, which often occurs in fine weather, when westerly winds prevail; or, lastly, she must warp out in a light breeze or calm, to the entrance of the bay outside, and to a position from which she can make sail.

South-east winds blow right into the harbour, and are consequently most favourable for running in, but with a strong wind in that direction, and at high water when the

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shoals are covered, there is generally some sea outside the narrow entrance; an accident at such a time might be attended with serious consequences, and therefore it is only in very fine weather that the entrance should be attempted with a S.E. wind.

North-west winds blow right out of the harbour, and often with great violence. A W.S.W. wind is the safest for running in, for the entrance and bay outside are then quite smooth, the sea being turned off by Cape St. Nicholas; but this wind will seldom take a vessel completely in, it will usually only enable her to shoot so far within Crose Point that a line may be sent ashore, or a kedge ahead, for the purpose of warping in the remainder of the way, which may be quickly done if due preparation has been made beforehand. The entrance should be attempted in the last quarter flood, then if the vessel touches the ground she will receive no damage, and there will be time for her to warp in before the tide begins to fall.

It is high water, F. and C., at 1h. 55m.; spring-tides rise 12 feet, neap-tides 7 feet. Water can be easily obtained on the eastern side of the harbour, or at the head of the harbour at high water.

At the distance of $18\frac{1}{2}$ miles, W. $\frac{1}{2}$ N., from Cape St. Nicholas is Point St. Giles, which is high and rocky. Between these two points are St. Pancras Cove and English Bay, of no use to shipping. About 5 miles to the south-westward of Point St. Giles is Manicouagon Point, which is low and thickly wooded, with a broad sandy beach like the rest of the coast westward to Outard Bay.

Between Points St. Giles and Manicouagon is Manicouagon Bay, which is dry at low water, with the exception of the narrow channels leading to the river. The bay is too dangerous a place to be of much use to shipping.

Off Manicouagon Point a sandy shoal extends, having many boulders on its eastern and southern parts; the easternmost point of this extensive and dangerous shoal lies E.S.E., $2\frac{1}{2}$ miles, from St. Giles Point, and E. by N., $5\frac{1}{2}$ miles from the N.E. part of Manicouagon Point. From the south point of the shoal it continues to the westward, curving with the land past Outard Point fully 16 miles, and extending from the shore from 2 to $2\frac{1}{2}$ miles. Near to Outard Point are all sand and clay cliffs. The tide of flood and ebb sets all along the edges of this shoal, but it is not perceptible more than 5 or 6 miles off shore. Great rippings are frequently met with without the edges of this shoal, particularly off its south point.

From Manicouagon Point the coast runs 11 miles to Outard Point, on the north side of which is the river, which is useless for vessels. From Outard Point to Bersimis Point the distance is 9 miles; between them the coast forms a bay, having three rocky islands in it which appear as two from seaward. In the western side of this bay there is anchorage in 14 fathoms, mud, with Bersimis Point bearing S.W. by S., $3\frac{1}{2}$ miles; but in running for it caution is required to avoid the bar of Bersimis River. Here you will be exposed to easterly winds.

Bersimis River, in the western part of Outard Bay, has sands and shoals extending $1\frac{1}{2}$ miles outside the entrance, which dry at low water and render the place useless to shipping. Immediately outside these shoals the water suddenly deepens to 60 fathoms within a mile or two. Bersimis Point is low and covered with spruce-trees, and as the head affords no warning it is very dangerous to approach it either at night or in foggy weather.

From Bersimis Point the coast runs $5\frac{1}{2}$ miles W. $\frac{1}{2}$ N. to Jeremy Island, which is small and lies close to the shore. From thence it runs 5 miles S.W. by W. $\frac{1}{2}$ W., to Cape Colomblie, which is rocky, with a small islet close to its western shore. About $1\frac{1}{2}$ miles from off this cape lies the Gulgare Shoal, a narrow ridge of granite rock, nearly 2 miles long, running parallel to the shore, with 2 to 3 fathoms over it at low water; it is very dangerous, as there are 23 fathoms close to its S.W. end, and also along its southern shore. Between it and the shore are 4 to 5 fathoms. Wildfowl Reef lies 4 miles S.W. by W. $\frac{1}{2}$ W. from Cape Colomblie; it consists of a large bed of rocks, extending three-quarters of a mile from the shore. Vessels therefore should be careful when standing in towards this part of the coast, 30 fathoms being quite near enough.

Between Cape Colomblie and the Wildfowl Reef the coast bends inwards and forms a shallow bay full of rocks named Plongeur Bay, and 4 miles hence to the westward is the Baie de Laval, having a rocky island at its entrance, within which it dries at low water. Vessels may safely stand in towards it as the soundings decrease gradually from 10 fathoms at the distance of $2\frac{1}{2}$ miles from the shore. Off the clay cliffs to the S.W. of the bay there is good anchorage in 5 or 7 fathoms, clay bottom.

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At Port Neuf, 8 miles farther to the south-westward, is a station of the Hudson Bay Company, which with the church can be distinctly seen from the offing. About three-quarters of a mile E.S.E. from the church, upon a low narrow peninsula, there is a grove of pine-trees; this peninsula runs N.N.E. for about 2 miles, and joins the clay bank before mentioned. There are 7 to 12 feet water between the main and the peninsula at high water. Here small vessels may find good shelter, by lying aground on the sand at low water.

A small patch of sand, having $3\frac{1}{2}$ fathoms on it, lies with the church at Port Neuf bearing S.W. by W. $\frac{1}{2}$ W., from $1\frac{1}{2}$ to 3 miles, which would be dangerous to a vessel in a heavy sea. From hence the Port Neuf Sands extend round the peninsula to Point Mille Vaches and run out from the shore about $1\frac{1}{2}$ miles; they are very dangerous, as there are 20 to 30 fathoms close to them.

POINT MILLE VACHES is low and sandy and covered with spruce-trees. The shoals off this point narrow the navigable channel between them and Biquette, on the opposite side, to $11\frac{1}{2}$ miles; both sides are bold-to, and as the set of the tides and currents is very strong the greatest attention to the soundings, and a good look-out, are absolutely necessary to a vessel running up in dark nights or foggy weather.

Into the Bay of Mille Vaches several small rivers fall, the principal of which is the Sault de Mouton, which has a fall of 80 feet just within the entrance. In the bay are a number of shoals and rocks which dry at low water. Good anchorage may be obtained in this bay, sand and mud bottom, with shelter from S.W. by W. round by north to N.E. by E., with the south extremity of Point Mille Vaches on with the inner or north side of the pine-trees on the peninsula of Port Neuf, bearing N.E. $\frac{1}{2}$ E., at the distance of 2 or 3 miles from the point, and three-quarters of a mile from the shoals. There is not much tide, and the ground is good.

The course and distance across the Bay of Mille Vaches to two large rocks, which have three small ones nearly a mile to the S.W. of them, and are named the Esquimaux Islets, is S.W. $\frac{1}{2}$ W., nearly 12 miles. The coast to the south-westward, from the Esquimaux Islets to Little Bergeron, a distance of 16 miles, consists of granite rock, steep and bold, and free from all danger, excepting a flat which occupies a bay on the west side of Cape Bon-desir, but which does not extend above a quarter of a mile out of a line joining the points of the bay, and is consequently very little in the way of vessels. There are upwards of 50 fathoms water close to the rocks along this part of the coast.

The tides are regular, increasing in strength as you approach the comparatively narrow pass on either side of Red Islet. The flood is the stronger tide of the two, the ebb being deflected over towards the southern shore by the stream out of the great River Saguenay. The flood does not extend above 5 or 6 miles off the north shore below Bergeron, and the closer to that shore the stronger is the stream. Its rate at Point Mille Vaches, where it does not extend far off shore, is from $1\frac{1}{2}$ to 2 knots; and off Bergeron from 2 to 3 knots, in spring-tides.

Great and Little Bergeron are two coves separated by a point. They are both full of large boulders, which dry at low water, and have small streams at their heads. Little Bergeron is of the two the most to the S.W. From it Green Island Light bears S. by E. $\frac{1}{2}$ E., $11\frac{1}{2}$ miles, and the Saguenay Cliffs, at the east point of entrance of the River, S.W. by W., $5\frac{1}{2}$ miles.

You may anchor, with the Saguenay Cliffs bearing W. by S., distant 3 miles, in 7 fathoms, with the S.W. end of Green Island and Red Islet in one, nearly a mile off shore; but immediately without this you fall into deep water. A black buoy is placed on a 12-foot patch, off Vache Reef; to be left on the right hand when entering the Saguenay.

THE RIVER SAGUENAY.—The S.W. point of the entrance of this river is named Lark Point, and is composed of low clay cliffs. Lark Islet, low and small, lies E.N.E., a mile from the point. From Lark Point a reef, named Lark Reef, dry at low water, extends $8\frac{1}{2}$ miles, in a S.E. direction, the extremity of which is marked by a red buoy lying in 3 fathoms. The entrance to the River Saguenay lies between this reef and those running off from Point Mille Vaches.

This extraordinary river, which was imperfectly known till the late surveys, is as remarkable for the great volume of water which it brings down to the St. Lawrence, as for the enormous depth of its bed, which is fully 100 fathoms lower than that of the St. Lawrence. It comes from the Lake St. John, and at Chicoutimi, a trading

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post of the Hudson Bay Company, which is 65 miles above its mouth, it becomes navigable, and 6 miles above which, to the rapids, the tide ascends. To Point Roches, 57 miles from the St. Lawrence, and 8 miles below Chicoutimi, it is navigable for the largest ships; and up to this part there is no danger in the river, the shores consisting of steep precipices, some of the headlands rising more than 1000 feet in height.

The current runs down with great force, the ebb-tide varying from 3 to 5 knots, according to the breadth of the river, which is from two-thirds of a mile to 2 miles. At the mouth of the river, this ebb-tide runs at the rate of 7 knots over Lark Islet Spit, and the S.W. extreme of Point Mille Vaches.

Tadoussac, which is in the entrance of the river, was formerly the principal post of the French, for trading with the Indians. It has declined, and now belongs to the Hudson Bay Company.

The harbour is off the settlement, a mile within Point Mille Vaches, and is well sheltered; but a heavy anchor should be cast close in-shore, on account of the eddies which sometimes set into it from the river.

Across the mouth of the river there are 12, 20, and 28 fathoms, but immediately within, the depth increases to above 100, and a little farther up to 150 fathoms. The current setting strongly over this bar, meeting with the spring ebbs of the St. Lawrence, cause breaking and whirling eddies and rippings; and these streams opposed to a heavy easterly gale, cause an exceedingly high, cross, and breaking sea, in which no boat could live. On the flood at such times, there is no more sea than in other parts of the river.

To enter the Saguenay, have the beginning of the flood, and sufficient daylight to reach Tadoussac. Winds from the S.W., southward to N.E., will take vessels into the river with the flood, but the N.E. is most to be depended on; but whether you approach from the S.W. or N.E., bring the western points of the Brandy Pots and White Island in one, and open to the southward of Hare Island, bearing S.S.W. $\frac{1}{2}$ W. Run upon this mark (and it will lead you well clear of Point Mille Vaches Patches and Lark Reefs, off the mouth of the river), until La Boule Point comes in one with Point Ilet, bearing N.W. by W. $\frac{1}{2}$ N., which will clear the S.W. side of Point Mille Vaches Reef; Point Ilet being the rather low N.W. point of the Harbour of Tadoussac, and La Boule a high and round-backed hill, forming a steep headland, 4 miles above Tadoussac, and the extreme point seen on the same side of the river.

On Bar Reef, 2 $\frac{1}{2}$ miles E. $\frac{1}{2}$ S. of Lark Point, a chequered buoy is or was placed; to be left on the port hand when entering the Saguenay.

Haul in upon the last-named leading mark, keeping the S.W. extreme of La Boule just open, which will clear all dangers; and when as far in as Point Rouge, bear towards the trading post, into the harbour, dropping your outer anchor in 16 fathoms, and the inner one close to, or within, low water mark.

SOUTHERN SHORE FROM CAPE GASPE TO BIG ISLAND.

THE coast between Cape Gaspe and Cape Chat is high and bold, free from danger, and destitute of harbours; but although free from danger, it must, nevertheless, be guarded against in dark foggy nights, since the water is everywhere too deep to afford sufficient warning by the lead for the safety of vessels. The shore along its whole extent, excepting in some of the bays, is of highly inclined slate and graywacke rocks, which would cut through a vessel's bottom in a very short time; and such is the impracticable nature of the country, that those who might escape to shore would run great risk of perishing from want before they could reach a settlement.

At 7 miles from Cape Gaspe is Cape Roxier, which is low and has about water extending from it about one-third of a mile: in the bay to the southward of it there is also a reef extending half a mile from the shore. Under Cape Roxier there is shelter from N.W. winds, but it is not considered desirable anchorage.

About 7 miles to the north-westward of Cape Roxier are Griffin River and Cove, affording shelter for boats, and 6 miles farther is the Great Fox River, off each point of the entrance to which are reefs sheltering the anchorage. Here vessels may anchor

for a short time in summer, and obtain supplies of wood, water, and fresh provisions. At 16 miles from Great Fox River is Great Pond, a small orpek affording shelter to boats.

The Magdalen River is 24 miles N.W. $\frac{1}{2}$ W. from Great Pond. It is sheltered from the northerly winds by a reef which extends out from the north-west-point (Cape Magdalen) of the entrance about 200 fathoms, in a direction parallel to the coast. The river has 18 feet water at spring-tides, so that small vessels are enabled to run in when the sea is smooth and the weather fine. In the bay vessels may anchor in fine weather in 7 fathoms, sand, gravel, and broken shells, at the distance of three-quarters of a mile from the sandy beach, with the N.W. point bearing W.N.W.; here they will be well sheltered from W.N.W. round by south to E.S.E.

About 18 miles from the Magdalen River is the Bay of Mont Louis, in which small vessels may anchor in 8 to 16 fathoms during fine weather, riding nearer the west than the east side; here they will be sheltered from W.N.W. by south to E.S.E. At the back of the bay is the river, but as it has only 7 feet at the entrance at high water, none but boats can venture in.

CAPE ST. ANN.—From the Bay of Mont Louis to Cape St. Ann the distance is 26 miles, and the coast is of moderate height with cliffs. Inland, and beyond the cape, are the mountains of St. Ann, which commence about $\frac{1}{2}$ leagues south-westward of the cape, and continue in that direction 10 or 12 leagues. They are of great altitude, and may be seen 80 or 90 miles in, clear weather: the highest peak lies 14 miles within Cape Chatte, and is estimated to be 3,970 feet above the sea; these hills are therefore the highest in British America.

There is a settlement at St. Ann's River, about $\frac{3}{4}$ leagues E.N.E. from Cape Chatte, where a few families reside, who are always ready to afford assistance if necessity should require it; but this as well as the little river near Cape Chatte are both barred at the entrance, and afford very little accommodation to shipping, although the former river, St. Ann's, may be entered by small schooners at high water. Cape Chatte River becomes almost dry at low water, except one spot, where 10 feet may occasionally be found. These rivers are therefore but little frequented.

CAPE CHATTE in long. $66^{\circ} 49' W.$, can easily be distinguished, as it appears like a round hill, separated from, but of less height than, the land behind it. It is the most northerly point of land on the south side of the River St. Lawrence. Hence to the River Matan the distance is nearly 11 leagues on a W. $\frac{1}{2}$ S. bearing; between there are several coves having the appearance of affording shelter, but none is attainable. The shore is all bold, with high cliffs, and affords nothing but wood and water. Off this part of the coast the soundings are all of sand beyond the depth of 15 fathoms, but within that depth they are hard and foul. In 15 fathoms water you will not be half a mile from the rocks, and in some places close to them. The water deepens very fast from 15 fathoms, so much so, that $1\frac{1}{2}$ miles from shore you will have 50 and 60 fathoms, with fine, clean sand, and somewhat farther off no ground at 100 fathoms.

The tide flows, by the shore, till 2 o'clock nearly, at Cape Chatte; but the tides in the River St. Lawrence are very much influenced by the winds, so much so that strong easterly winds make them flow much stronger and rise much higher, while westerly winds have a contrary effect. Common springs rise 12, neap-tides 6 feet.

The River Matan is small and with a narrow entrance, and only available for small vessels. When abreast of the river, and not more than 3 or 4 miles from it, you will see several houses, and a bluff cliff standing by itself close to the west side of the entrance. If desirous of entering, you should never attempt it without a pilot, as the bar shifts, and there is seldom more than 4 feet at low water, and 15 at high water, spring-tides. Outside the bar there is anchorage, in 5 fathoms, at half a mile off shore, or a little farther out, in 10 fathoms, bottom sand and clay. A very rapid tide sets out of the river during the ebb.

Pilots and provisions may be procured here if you should be in want or distress. The tide flows at St. on the days of full and change.

When a few miles to the eastward of Matan, and 3 miles from shore, you will see the Paps of Matan bearing S.W.; they stand in-land, to the westward of the river, and are with difficulty to be distinguished, although this is the best bearing upon which to see them; Mount Camille will then bear S.W. by W. $\frac{1}{2}$ W., distant 14 or 16

leagues; this mountain appears to the northward of all the land then in sight, in the form of a circular island.

From Matan to Little Metis Bay the distance is 22 miles along a low, rocky, wooded shore. The bay is small and divided into two rocky coves, dry at low water, into the southern of which a stream falls. Metis Point, the outer point of the bay, has several buildings on it, and a reef runs from it to the eastward, which affords shelter to small vessels from the N.W. winds. This reef partly dries at low water, and may be passed by the lead in a depth of 4 fathoms.

Grand Metis is separated from Little Metis by Metis Point. In the western portion of the bay is the river, which is of but little use to ships, as the bay nearly dries at low water; however, small vessels may anchor there with S.W. winds, in 3 fathoms at low water, but with westerly winds they will have no shelter. Notwithstanding, vessels lie here during the summer months, to load timber; they generally moor with the river bearing S.S.W., distant 1½ miles, in 6 fathoms at low water, bottom mud. A vessel may occasionally anchor anywhere off the bay, in 6 to 12 fathoms, bottom good, and sufficient room to get under weigh. Grand Metis has risen into notice from the saw-mills erected on a fall about 3 miles up, where quantities of fine spruce deals are cut.

Cook Cove, 14 miles to the westward of Metis Point, affords good anchorage in 3 fathoms at low water, with shelter from the winds along the coast; from it Mount Camille bears S.E. by S., distant 8 miles. From hence to Father Point the distance is 4½ miles; here pilots may be obtained.

About 3 miles W. by S. from Father Point is Barnaby Island, and between them is the road of Rimousky, where vessels anchor during the summer to take in cargoes of lumber. The best berth is considered to be with the eastern point of the island bearing W. by N., Rimousky Church S.S.W. ½ W., and Father Point E.N.E.; the depth will then be 4 fathoms, at low water spring-tides, over mud bottom. Small vessels may anchor farther to the westward, in 3 fathoms at low water, with the east end of the rocks, off the eastern point of Barnaby Island, bearing N.W. by W., and distant a quarter of a mile.

Off the eastern end of Barnaby Island a reef extends about one-quarter of a mile, which may be passed in 4 fathoms. Barnaby Island is about 3 miles long, low, and wooded. There is a channel between it and the shore, which dries at low water, and should not be attempted even at high water by vessels drawing more than 8 feet. At the back of the island, on the main, are the Church and Village of Rimousky.

Off the outside of Barnaby Island there is a 3-fathom shoal extending out ½ of a mile, and the reef off its western end runs out in a W.S.W. direction more than three-quarters of a mile. Between the western end of Barnaby Island and the mainland there is a large, high, and bare rock, which is distant from the island about two-thirds of a mile. Midway between the western points of the island and the bare rock, bearing north and south from each other, there are two fathoms at low water, in Barnaby Road, over mud bottom, affording good anchorage to small vessels, in all but westerly winds. Rimousky Church in one with the eastern end of the rock, will lie over the tail of the reef off the west end of Barnaby, and into this anchorage.

From the east end of Barnaby Island the eastern end of Biquette Island bears West 14½ miles, and Cape Arignole W. by S. ½ S. 18½ miles. Cape Arignole and the east end of Big Island lie due north and south of each other; and the west end of the island, bearing N.W., and the east end of the reef which extends S.E. from the island, N.N.E.; the distance from the cape to the body of the island being about 2½ miles.

Between Barnaby and Big Island are the River Otter and Old Harbour; the former bears S.W. from Barnaby, distant about 5 miles, and is of little use to shipping except to water at; the latter is still further to the westward, about 3 miles, and is a very good place for small vessels to lie sheltered from westerly winds. This harbour has two round islands on the east side of it, which contract the entrance to two-thirds of a mile in width; the anchorage is midway between the westernmost island and the west side of the harbour in 3 fathoms at low water, the west point bearing West, distant one-third of a mile. When coming from the N.W. for this anchorage, keep the westernmost of the two islands its own breadth open to the eastward of the west point of the harbour, as it will lead you clear of the eastern rock of the Cape Arignole Reef, which

is the danger in the way. A family resides here, who occasionally can furnish provisions, if necessary.

Within Bic Island is Cape Arignole, on the east side of which is the reef, which runs out E. by N. one mile. It consists of two rocks, the western end of the westernmost of which is always above water, and bears South 24 miles, from the east end of the S.E. reef of Bic, and E. $\frac{1}{2}$ N., $1\frac{1}{2}$ mile, from the N.W. extremity of Cape Arignole; but it is distant only a quarter of a mile from the rocks off the east end of the cape; this rock is a quarter of a mile long, and very narrow. The eastern reef is small, covered at high tides, and one-third of a mile east from the other. These two rocks are very bold to the northward, and there are 5 or 6 fathoms of water between them. Vessels may pass between them and the main by keeping close to them, but can seldom have occasion to try so dangerous a passage. A good mark to clear this reef, when going in and out of Old Man Harbour, is to keep the swashway in the S.E. part of the harbour well open to the eastward of the west point of the harbour bearing E.S.E. $\frac{1}{2}$ S.

On the west side of Cape Arignole is Ha-ha Bay, off the entrance to which there is an excellent anchorage in 10 fathoms with easterly winds.

BIC ISLAND is of moderate height, and about 3 miles long in a direction parallel to the coast. It is thickly wooded, and affords supplies of water, especially in very dry seasons. The east, west, and north sides are reefs. The N.E. reef is a small patch of black coral, and the other reefs lying 400 fathoms from the east side of the island, and which are made good by bringing the Bicoques Islets on the east side of Old Man Harbour into the westward of the S.E. reef, bearing nothing to the eastward of S. by S. The S.E. reef extends off $1\frac{1}{2}$ miles E. by S. from the south-east end of the island, and has three rocks at its outer part, which are bold on the north and south sides, and always dry. The West Grounds are an extensive flat of slate, partly dry at low water, the outer point of which is distant three-quarters of a mile W. $\frac{1}{2}$ S. from the west point of the island; it may be approached to 5 fathoms.

Biquette Island.—A short distance from Bic Island, on its northern side, is Biquette Island, which is small, being not more than half a mile in extent, and 100 feet high. The channel between is narrowed by some rocks extending off the east and south-east sides of Biquette, and by two or three lying off its west end, to nearly the distance of a mile, so that it is dangerous and intricate for a stranger to attempt this passage. The best time is at low water, when the dangers show, at which time from 5 to 9 fathoms, irregular soundings, will be obtained in mid-channel. The northern side of the island is steep to, there being 15 fathoms at a short distance off.

The N.W. reef of Biquette is very dangerous; it lies $1\frac{1}{2}$ miles due west from the island, with the west end of Bic in line with the N.W. point of Ha-ha Bay, bearing S.S.E. $\frac{1}{2}$ E., but this last-mentioned point is not so easily recognized, on account of the high land behind it. In approaching it from the westward, the north extremity of Cape Arignole should not be shut in behind the west point of Bic. This reef is composed of two rocks about 150 fathoms long, and just covered at high water, and like Biquette Island is steep to on the north side, having 12 fathoms close to. At the distance of 2 miles north of the island there are 30 fathoms, and only $1\frac{1}{2}$ miles from the reef there is the same depth, with bottom of sand. Further off no bottom will be found at 50 or 60 fathoms.

The lighthouse on Biquette Island shows a light of the first class, which is lighted from the 15th of April to the 15th of December. It is 112 feet above the sea, and revolves in 2 minutes. A gun is fired every hour during fogs and snow-storms.

Behind Bic Island, on the main, is the high land of Bic, the highest part of which is 1,286 feet above the level of the sea, and bears S.W. by S. 4 miles from the cape.

Aleide Reef.—The Aleide Reef, lying between Bic and the main, is very dangerous, as it is so bold all round that no warning whatever is given by the soundings. It is a small

* The swashway here mentioned is formed by a river running down from the mountains, and has, just to the westward of its mouth, appearing like chalk, but which is a white barren rock. This is a very good mark for small vessels coming from the westward, and is a good place to anchor at Old Bic, as the east part of the reef of the cape is covered at high water, and the swashway, which dry when the tide is out.

rock of about 6 feet in extent, having 4 feet on it at low water, and stands on a rocky shoal 100 fathoms long, lying parallel to the coast. It lies due S.W. from the west point of Bic, distant $3\frac{1}{2}$ miles; and there is no close leading mark for clearing it, but if Mount Camille be not entirely shut in behind Cape Ariguole vessels will be in no danger of it.

Under either end of Bic Island there is excellent anchorage, and also between it and the mainland, according to the wind; and vessels which may be met by an easterly wind, had better anchor than attempt to beat down the Estuary in the long and foggy nights of the fall of the year. More shipwrecks have arisen in consequence of vessels obstinately endeavouring to beat down against an easterly gale, with its accompanying fog, than from any other cause, and yet all that they can gain by such a course might be run in a few hours of fair wind.

TIDES, &c.—To the westward of Bic the first of the flood comes from the N.E., but there is very little stream of flood in neap-tides between Bic and the main land, excepting close to the latter. In spring-tides it runs through the channel at the average rate of $1\frac{1}{2}$ knots, being strongest near the main land. It also runs between Bic and Biquette, but the stream extends only a very short distance outside the latter island.

The stream of flood continues its course along the main land, passing inside, and also very close outside, of the Razades, Basque, and Apple Island; but nowhere extending a sufficient distance off shore to be of use to ships beating to the westward much below Green Island. That part of the stream of flood which passes farther out towards Bic, and also that which passes between Bic and Biquette, runs at its full rate only until half flood, after which it becomes gradually weaker, turning to the N.W., round the west end of the island, and finally to the north and N.E., towards the end of the tide.

The stream of flood becomes weaker, and of less duration, as you proceed to the westward of the islands. Half way between Bic and the Razades, there is slack water for about an hour at the end of the ebb; after which a weak flood makes during the first quarter of that tide, at the rate of a quarter of a knot; and this is succeeded by the eddy flood at the rate of $1\frac{1}{2}$ knots, or $2\frac{1}{2}$ at the edge of the Bank of Soundings, which comes from the westward, running in the same direction as the ebb during the remainder of the flood-tide.

The set of the latter part of the flood to the northward, past the west end of Bic, should be remembered by vessels weighing from the western anchorage, or approaching the island with light winds, especially in the night, or thick weather.

The first of the ebb sets off shore, or from the southward, and this is more particularly remarkable at the eastern anchorage, but it only lasts for a very short time, after which the stream runs fairly between the islands, and along the coast to the eastward for the remainder of the tide. Its rate, in westerly winds, varies from 2 to $2\frac{1}{2}$ knots, according as it is neap or spring tide, but it does not run so strongly in easterly winds.

The South Bank is both to the eastward and westward of Bic and Biquette, and the assistance which the soundings on it may afford to vessels at night, or in fog, will be evident. If vessels, on approaching these islands from either direction, will but use their leads in reference to the soundings on the chart, and attend to the directions given, they can scarcely run foul of Biquette, or its reefs, as has so often occurred in times past. The 30 fathoms' edge of the South Bank is 7 miles north of Barnaby Island, and 6 miles west of the N.W. reef of Biquette. Between those points the edge of the bank continues in a slightly undulating line. Everywhere within that line there is much less water, and to the northward of the South Bank, in every part, there is no bottom with from 60 to 80 fathoms of line, quite over to the north coast. The 30 fathoms' edge of the bank is $4\frac{1}{2}$ miles north of the N.E. Razade Islet, and is nearly straight from that point eastward to off the N.W. reef of Biquette.

To the westward the South Bank becomes gradually wider, its northern edge pursuing a direction from off the Razades towards the north side of the Red-Islet Reef. There are nowhere more than 36 fathoms at low water upon it, until you arrive within a mile of the line joining the N.E. extremities of the Red-Islet and Green Island Reefs, and this increase in the depth of water is a valuable indication to a vessel approaching that dangerous pass in thick weather, when the Green Island

BIO ISLAND TO QUÉBEC.

Light cannot be seen. There is anchorage in 10 or 12 fathoms, with good holding ground, all along the south coast from Bio to Green Island.

BIO ISLAND TO QUÉBEC.

BETWEEN Bio and the Razades the coast of the mainland is high and rocky, and, with the exception of the Alcide Rock, is free from danger to small vessels, that may stand close in; but ships should not stand in further than 7 fathoms at low, and 9 fathoms at high water, because of a long ridge of rocky ground extending 5 miles to the E.N.E. from the N.E. Razade Islet, with 17 feet water near its eastern end. To clear every part of this ridge, keep Basque Island its own breadth open to the northward of the N.E. Razade.

THE RAZADE ISLETS are two large rocks which bear from each other S.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ miles. The north-easternmost of these islets bears from the N.W. reef of Biquette S.W. $\frac{1}{2}$ W., nearly 15 miles, and is distant $1\frac{1}{2}$ miles from the main land to the southward. Between them and the shore there is no passage for vessels. W.S.W. from the N.E. Razade Islet, distant 5 miles, is Basque Island, about $1\frac{1}{2}$ miles long, and 200 fathoms wide. It is rocky, and there is no passage for ships between it and the shore, from which it is distant 2 miles. From the S.W. end of this island a sandy spit runs out a quarter of a mile to the southward. Close off the end of this spit there is a long and narrow hole, 4 or 5 fathoms deep at low water, in which small craft may be secured. The shoal water extends half a mile to the northward of Basque Island, and there is a reef of rocks to the N.W. and W. of its west point. On the western extremity of this reef, and about 600 fathoms distant from the island, is a round rock which shows at half tide.

Apple Island is W.S.W. $\frac{1}{2}$ W., nearly 3 miles from Basque Island. Between it and the shore there is no passage for ships, but its north side is very bold, there being 4 fathoms at the distance of a cable's length.

GREEN ISLAND.—The east end of this island is a long and narrow point of rocks, always above water, and running out more than half a mile from the trees towards Apple Island, which is distant from it $2\frac{1}{2}$ miles in an E.N.E. direction. Half this distance towards Apple Island is occupied by reefs of slate which dry at low water. In the remainder, there are a few feet of water, affording a passage for small schooners, which run in between Green Island and the main at high water.

A lighthouse stands on the north point of the island, nearly $\frac{1}{2}$ mile from the eastern extremity of the rocks above water off its east point; and W.S.W. $\frac{1}{2}$ W., $4\frac{1}{2}$ miles, from Apple Island. It shows a fixed light, 60 feet above the sea, and can be seen in clear weather, from the distance of about 12, 14, or 17 miles, according as the height of the observer's eye is 10, 20, or 60 feet. The tower is square, white, and 40 feet high. Behind the lighthouse, at the distance of about a quarter of a mile, and bearing S.S.E. $\frac{1}{2}$ E. from it, there is a white beacon, which, when brought in one with the lighthouse, will clear the tail of the Red-Islet Reef to the eastward.

The Green Island Reef, which is very dangerous, runs out from the lighthouse N.N.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ miles, to the 3-fathom mark. From its N.E. extremity it trends E. by S. till it joins the shoal water connecting Green and Apple Islands. Its N.W. side is straight, running S.W. by S. from its N.E. extremity to the shore close to the westward of the lighthouse, off which it extends only 200 fathoms to the N.W. The rocks on it dry at low water, nearly three-quarters of a mile out from the high-water mark. On the eastern side this reef may be safely approached by the lead to 7 or even 6 fathoms at low water, but on the north, N.W., and west sides, there is no bottom with the hand lead until close to it. Half a mile north, and N.W. of it, there are between 20 and 30 fathoms of water. At the distance of 1 mile N.W. from its N.E. extremity, there are between 40 and 50 fathoms; and at the distance of $1\frac{1}{2}$ miles, in the same direction, there is no bottom for a short space with 60 fathoms of line.

Deep as the water is to the northward of this dangerous reef, there is no other guide, in a thick fog when the light cannot be seen, but the soundings: yet it will never do to lose command of the vessel by rounding to, in the rapid ebb tide, (which

with good holding

sets upon the reef at the rate of 5 knots,) for the purpose of getting bottom in the usual way by the common deep-sea lead.

To clear Green Island Reef, in the day time and clear weather, keep the summit of the high land to the southward of Cape Arichole, (or the high land of Bio,) well open to the northward of Basque Island.

There is excellent anchorage in westerly winds under the Green Island Reef; it is the general rendezvous of vessels waiting for the flood, to beat through between Green and Red Islands. But as the first of the flood comes from the northward, and sets on the shoals, vessels had better not anchor with the light bearing to the westward of S.W. $\frac{1}{2}$ W., or in less than 7 fathoms at low water. With that depth, on that bearing, they will be $2\frac{1}{2}$ miles from the light, one mile from the eastern edge of the reef, and the same distance from the shoal water to the southward. If they wish still more room, they may choose their berth in 9, 10, or 11 fathoms, and will find a bottom of stiff mud in either depth.

The S.W. end of Green Island is low and bare, and has a dangerous reef running from it to the westward above a mile; this reef which dries nearly the whole of its length, curves round to the northward, so that its outer edge bears S.W. by W. $\frac{1}{2}$ W. from the lighthouse. Its northern side is very steep, and the flood tide runs strongly over the tail of the reef towards Cacona, and the ebb the contrary. Mariners, therefore, should not approach it nearer than 25 fathoms, nor bring the light to bear to the northward of E.N.E.

About $3\frac{1}{2}$ miles S.W. by S. of the south-west end of Green Island is Cacona, a remarkable rocky peninsula 300 or 400 feet high, which is joined to the main by a low marshy isthmus. At $1\frac{1}{2}$ miles south-westward of Cacona, and just to the northward of the stream of it, are the Perceé Rocks, two clusters, occupying the extent of $1\frac{1}{2}$ miles. They lie about a mile from the main, and are nearly covered at high water. To the southward of them there is a narrow passage with 3 fathoms in it; and you will always go clear of them to the northward, by keeping in not less than 8 fathoms water.

RED ISLAND is a low, flat islet, of a reddish colour, and without trees. A rocky bank or reef, $1\frac{1}{2}$ miles broad, extends $2\frac{1}{2}$ miles to the N.E., and is nearly dry in some parts at low water; but the islet is quite bold at its S.W. end. Anchorage in 10 fathoms, good holding-ground, may be had to the S.E. of this reef. This island is situated very nearly in the middle of the river, and bears from Green Island Lighthouse N.W. by W. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ miles. A lighthouse is erected on the island, and bears a red fixed light. Near the east end of Red Island Reef a buoy, painted red, has been laid down; it lies in 5 fathoms, with the south side of Red Island in one with the north side of Hare Island; and the beacon on Green Island open a little to the eastward of the lighthouse. Should you be suddenly caught to the northward of Red Islet Reef by a shift of wind to the eastward, so that you cannot fetch round the east end of the reef and gain the south channel, you may safely bear up and run to the westward, by giving the N.W. sides of Red Island, White Island, and Hare Island, with its reefs, a berth of $1\frac{1}{2}$ or 2 miles, on your port hand, in passing. When you are 10 miles to the westward of Hare Island, you may safely haul across for the south channel. Observe, that by keeping Kamourasca Church just open to the westward of Grand Island, bearing S. by W. $\frac{1}{2}$ W., you will clear the S.W. end of Red Island Reef, (on which a red buoy is placed,) in 8 fathoms at low water. As the river is all clear to the westward, there is no necessity for hauling across so near to the reef. There is an anchorage along the N.W. side of Hare Island, in 6 to 8 fathoms water, but this is very close in.

HARE ISLAND, &c.—In the middle of this part of the river are Hare and White Islands with their reef, the Brandy-Pots, &c., which divide this part of the river into three channels. They altogether occupy an extent of about 20 miles. The North Channel, though that which is generally used, is clear, deep, and broad, and might be used occasionally under proper circumstances as in the case of scant and strong N.W. winds; but with easterly winds and thick weather, or at night, it must not be attempted, as there are no leading marks, and the depth is too great and irregular to afford any guidance, besides the want of shelter or anchorage on the north shore. The South Channel, between the reefs and the south shore of the river is generally preferred, as the tides are not so strong, nor the water so inconveniently deep, as in the other channel; besides which it has good anchorage in every part, and

a sufficient depth of water for any ships. We will begin in our description of this range of islets and reefs at their western extremity.

Hare Island Bank is separated from the western end of Hare Island by a channel half a mile wide, in the middle of which is a knoll of 12 feet high. Its greatest extent, lying along the north side of the Sound, is about a distance of 9 miles, and $1\frac{1}{2}$ miles broad, with soundings over 10 fathoms. On the northern part of this bank, there is a portion always dry, which is covered with grass and bushes. All along the south side of the bank there is good anchorage in 7 fathoms, and no vessel should approach it nearer. The south-west end of the bank may be cleared in 3 fathoms, by keeping Kamourasca Church just open to the westward of Grand Island, bearing S. by W. $\frac{1}{2}$ W.

The south-west end of Hare Island Bank is marked by a red buoy, which lies with Kamourasca Church a little open to the westward of the large island of Kamourasca, and the north side of the Hare Island Reef in one with the north side of Hare Island, bearing N.E. $\frac{1}{2}$ N. At the east end of the bank there is a knoll of 12 feet marked by a red buoy, which lies with the west end of Hare Island, bearing N.W. $\frac{1}{2}$ W., and the south side of Hare Island and the middle of White Island in one. To the eastward of this buoy, at two-thirds of a mile, is another knoll of $2\frac{1}{2}$ to 3 fathoms. From this knoll a narrow ridge, of $3\frac{1}{2}$ to 4 fathoms, runs N.E. by E., about 5 miles, to the Middle Knoll, on which there is a white buoy. This Middle Knoll is a small patch of rocks, upon which there are 10 feet at low water, with 4 to 8 fathoms close to all round; it lies exactly in the line from the extreme of Loup Point to the N.W. point of the Brandy Pots, the latter bearing N.W. by W. $\frac{1}{2}$ W., and the south point of the same islands bearing N.W. $\frac{1}{2}$ W., $1\frac{1}{2}$ miles.

Barrett Ledge.—Between Barrett Ledge and the Middle Knoll there are 4 to 6 fathoms. Barrett Ledge is composed of two detached rocks. On the south-western rock lies a chequered black-and-white buoy, having the northern extremity of the main land within Green Island, in a line with the northernmost high land of Cape Arignole, bearing N. 64° E.; the summit of the southernmost mountain of the high land of Kamourasca in one with the south point of Great Pilgrim Island, S. 30° W.; the eastern side of the trees on Hare Island in one with the west cape of the Bay of Rocks, (on the north shore,) N. 47° W.; and two houses near the River du Loup, N. 30° E.; the latter are the only two houses between the church and River du Loup. The rocks of Barrett Ledge bear from each other N. 63° E., and S. 63° W., one quarter of a mile. The N.E. rock has 10 feet over it; the S.W. has 12. Between them is a depth of 8 fathoms. The leading mark through this part of the channel, leaving Barrett Ledge and Middle Ground to the northward, and Perceé Rocks and Pilgrim Shoal to the southward, is Green Island Light-house, just shutting in with the S.W. point of the island, N.E. $\frac{1}{2}$ E.

Hare Island is about 7 miles long, and about a mile broad. On its southern side, and near its eastern extremity, is some islet named the Brandy Pots, on the southern and smallest of which there is a telegraph. The northernmost Brandy Pot is the highest, being about 150 feet high, and is covered with trees; at its S.W. point there is a good spring, but it dries in very hot weather. A little to the eastward of the Brandy Pots, and connected with them at low water by a chain of rocks, is the Noggin, a small islet covered with trees. Half-way between the Noggin and the east end of Hare Island is a reef of rocks, which dries at low water; it lies close to Hare Island, and therefore not in the way of shipping, and being in 7 fathoms you will always go clear.

To the westward of the Brandy Pots the south side of Hare Island has a flat of hard ground extending from it, 4 miles in length, and about half a mile in breadth. The whole of this side of the island is strewed with rocks.

From the east end of Hare Island a ridge of rocks extends to the north-eastward for about 5 miles, and dries for the greater part of that distance. This ridge is extremely dangerous, because there is no mark to clear it, and the flood-tide sets strongly upon and over it into the North Channel. Near the middle of the reef is the White Islet, which is small, low, and covered with trees. On the N.E. end of the reef, the north side of Hare Island and the south side of White Islet are touching, and the west point of Cocona bears S.E. $\frac{1}{2}$ E. Vessels should come no nearer to it than 10 fathoms at low water: here there is generally a black buoy. The passage between the N.E. end of the reef and Red Islet is $2\frac{1}{2}$ miles wide, and free from danger.

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THE PILGRIMS are five islets lying at the distance of $1\frac{1}{2}$ miles from the shore on the south side of the South Channel, with no passage between. They are about $4\frac{1}{2}$ miles in extent, and are connected together by reefs, which dry at low water. The largest islet is also the highest, being about 300 feet high, and partially covered with trees: abreast of it is anchorage for small vessels, in $2\frac{1}{2}$ fathoms water. Outside the Pilgrims shoal water of 3 fathoms extends to the distance of about half a mile, and thence it extends to the eastward and westward parallel to the shore, from which it is distant fully 3 miles. To the eastward of the Pilgrims this shoal water takes the name of the Banc du Loup, and to the westward of those islands the Banc de St. André.

The Pilgrim Shoal is long and narrow, and runs for the distance of 4 miles in a direction nearly parallel to the shore, from which it is distant only 3 miles. On the northern side there is a black buoy, lying in $4\frac{1}{2}$ fathoms, with the west ends of Hare and Great Pilgrim Islands in a line bearing N.N.W. $\frac{1}{2}$ W., and S.S.E. $\frac{1}{2}$ E. The eastern end of the shoal, in 3 fathoms, lies with the N.E. end of the trees of Hare Island and the eastern side of the Brandy Pots in one, bearing N. $\frac{1}{2}$ E. On this shoal there are $2\frac{1}{2}$ fathoms. The leading-mark through, between Pilgrim Shoal and Hare Island, is the north side of Burnt Island just open of Grand Island, bearing S.W. $\frac{1}{2}$ W.

THE KAMOURASCA ISLANDS lie nearly 6 miles to the westward of the Pilgrims, and $2\frac{1}{2}$ miles from the shore. Behind them are the church and settlement of the same name. The islands altogether occupy a space of about 8 miles; the two northern named Grand and Burnt Islands are steep-to on the northern side, and must be approached with care. Off this part of the coast there is good anchorage, with the Church of Kamourasca just open to the westward of Crow Island, bearing S.E. $\frac{1}{2}$ E., and Grand Island just open to the northward of Burnt Island. Here, you will anchor well sheltered from the prevailing winds, but exposed to the N.W.; the depth is 7 fathoms, stiff mud, at a short distance from the 3-fathoms edge of the bank. Large vessels wishing for more room may anchor farther out anywhere to the westward.

From the Kamourasca Islands a shoal bank lines the coast to the westward, which may be approached to the depth of 7 fathoms up to the buoy on the shoal of St. Ann.

From Crow Island Cape Diable bears S.W. $\frac{1}{2}$ W., distant nearly 3 miles; from the Cape, in the direction of Crow Island, a rocky reef runs off, the easternmost part of which is covered at a quarter-flood. At $2\frac{1}{2}$ miles above Cape Diable is Point St. Denis, the southward of which is a little cove, having good riding opposite at $1\frac{1}{2}$ miles from the shore, in from 6 to 8 fathoms.

The land from St. Denis runs 5 miles south-westward to Point Ouelle, and is all low, with rocks before it. From Point Ouelle a bank runs off, and lines the shore for a distance of 8 miles to the westward, as far as Point St. Roque, and extends off the coast fully 4 miles; over this sand and mud flat are scattered many large stones. Just under Point Ouelle is the river leading up to the church and settlement, which will admit vessels drawing from 10 to 15 feet water. The coast between Points Ouelle and St. Roque bends inwards, forming the Bay of St. Ann, which is shoal all over by reason of the sand and mud flat previously mentioned; at the back of this bay is a settlement of the same name. At the northern edge of this bay, $3\frac{1}{2}$ miles N.W. from Ouelle Point, is a black buoy, and at 4 miles N.N.W. from St. Roque, is a lightvessel, both of which must always be left on the port or south side when bound upwards.

THE NORTH SHORE FROM THE BAGUENAY TO COUDRES ISLAND.—From the Saguenay to Coudres Island the northern shore of the river is bold and mountainous. In most parts the granitic hills rise immediately from the river, forming steep precipitous headlands. Near the entrance of the Saguenay these hills are about 1,000 feet high, but those of the Eboulements attain an elevation of 2,547 feet above the tide-waters of the river.

At $6\frac{1}{2}$ miles S.W. of Lark Point is situated Cape Basque, and about $1\frac{1}{2}$ miles to the northward of the cape lies Echafaud Islet; a small rocky islet in the mouth of a cove; it bears 5 miles W. $\frac{1}{2}$ E. from the S.E. extreme of Lark Reef, the shoal of which extends as far as this place. Basque Road is a well-sheltered anchorage lying off this; the best position being the Echafaud bearing W.N.W., rather less than a mile distant, in 10 or 11 fathoms, over clay bottom.

The Bay of Rocks is about $2\frac{1}{2}$ miles south-westward from Cape Basque, and affords shelter only to boats. At $5\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. of Cape Basque is Cape Dogs, which is quite bold and high; and similar to it is Cape Salmon, which is situated S.W. $\frac{1}{2}$ S. $2\frac{1}{2}$ miles distant from it. About $1\frac{1}{2}$ miles farther to the westward is Port Salmon, which, like Port Parsley and Shettle Port, to the eastward, are only boat harbours. From hence to Quebec the settlements are nearly continuous. At 6 miles S.W. by W. $\frac{1}{2}$ W. from Cape Salmon is situated Cape Eagle, which is of the same character.

MURRAY BAY.—This bay lies at $4\frac{1}{2}$ miles W. by S. from Cape Eagle, and is $1\frac{1}{2}$ miles wide, and nearly as deep. A rapid and unnavigable river falls into the head of it; and the bay is nearly all dry at low water, except the shallow channels leading to the river. The anchorage is close under the high rocky shore, a little to the eastward of the bay; with Point Gaze, its west point, bearing S.W. $\frac{1}{2}$ W.; Point Pique, its east point, W. by N., about 400 fathoms; and Point Heu E.N.E. $\frac{1}{2}$ E.

Goose Cape lies $2\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. from Point Gaze; it is bold and rocky, and forms the western extremity of Mal Bay, while Point Gaze, on the west of Murray Bay, forms the eastern extremity. Mal Bay is formed by a slight incurving of the coast, and shoals extend a quarter of a mile off shore, and there is no good anchorage in it.

At 3 miles W. by S. from Goose Cape is situated Cape Martin. Between these capes the shore is very slightly indented, and the shoals dry out about one quarter of a mile, that is, nearly to a line joining the two capes. About half way between them, but rather nearer Goose Cape, a stream descends a ravine, and off the mouth of the latter there is a very large boulder stone named the Grosse Rock. Anchorage may be obtained in 7-fathoms, with Grosse Rock bearing N. by W.; here you will be sheltered from the tides, which run past Goose Cape with great rapidity, and occasion at times a strong rippling.

COUDRES ISLAND.—This island is about $5\frac{1}{2}$ miles long and $2\frac{1}{2}$ wide. The east end of the island bears from Cape Martin S.W. by S. $2\frac{1}{2}$ miles. Rocks and shoals line its south shore, and extend a mile out from it, as they do also off its N.E. point; but the north side of the island is bold for about 2 miles to the eastward of Prairie Bay. Prairie Bay lies near the centre of the north side of Coudres Island, and off Point Prairie, its west point, a shoal, covered at high water, extends 620 fathoms to the N.W. from high-water mark, and shelters the bay from S.W. winds. The line of Notre Dame Church, in one with the N.E. end of the low clay cliff of Point St. Joseph, passes 100 fathoms within the 3-fathoms north extreme of this shoal; but if the church be kept on with the N.W. end of the same cliff, it will lead clear of the shoal in deep water. The cross mark for the north point of the shoal is St. Pierre Church and the east side of St. Paul's Bay in one.

THE NORTH, MIDDLE, AND SOUTH CHANNELS TO QUEBEC.

THE NORTH CHANNEL lies to the northward of Coudres Island, and runs along the northern shore of the river; and on the south side of it is the line of shoals which extends from the west side of Coudres Island to Burnt Cape Ledge and the Bayfield Isles. It is a fine channel, and although not so convenient for the purposes of navigation as the South Channel, which is the most generally used, still it may be of service at times, as it frequently remains open, or free from ice, some time after the South Channel becomes unnavigable in the fall of the year.

The eastern entrance to this channel is between the reef which extends a mile to the E.N.E. of the N.E. end of Coudres Island and the shoals off Eboulements Bay, where there is a large settlement. You may clear the shoals, on each side of this part of the channel, by keeping one mile from the northern shore, or, not approaching it nearer than 10 or 12 fathoms water; the mark for clearing the shoals westward of Cape St. Joseph being Cape Goose and Cape Martin in one E. by N.

ST. PAUL'S BAY, opposite the west end of Coudres Island, is shoal and rocky; it has a great ripple at some distance off, around Cape Corbeau, its eastern side. Its western point named Cape Labaie has shoals of mud and large stones extending off it for three-quarters of a mile, and which also extend for $11\frac{1}{2}$ miles to the south-westward to an

equal distance off shore; to clear them off Labelle, you must bring the extreme western Capes Rouge and Gribbanne open to the southward of Cape Maillard, S.W. $\frac{1}{2}$ W.

After clearing the N.W. reef of Coudres Island by the before-mentioned mark, there is a fine straight channel from $1\frac{1}{2}$ to $2\frac{1}{2}$ miles broad, entirely free from danger, and extending 18 or 19 miles to the Burnt Cape Ledge. The depth does not exceed 17 fathoms, and there is good anchorage towards the sides, out of the strength of the tides, which run stronger and with more sea in this long and open reach than in the South Channel.

The southern side of this channel is a bank, extending, as before mentioned, from Coudres Island to Burnt Cape Ledge. Its edge is nearly parallel with the coast, and is easily followed.

The Neptune Rock is nearly 15 miles S.W. from Coudres Island, within the edge of this southern shoal, and is easily recognized.

The North Shore is high, and, as previously mentioned, is lined with shoals. At $1\frac{1}{2}$ miles S.W. of Cape Maillard is a landing place named Abattis, 2 miles to the southwest of which is the Sault au Cochon, where the shoals, which line the shore, cease. There is only one landing place, La Gribbanne, between Abattis and Cape Tourments, a distance of 11 miles. To the westward of the Sault au Cochon the mountains and uninhabited coast is quite bold, the high and precipitous capes, of various granitic rocks, being washed by the river as far as Cape Tourments, where the Seminaire Bank commences, and the mountains trend to the N.W. away from the shore.

The Burnt Cape Ledge, nearly opposite Cape Brulé, from which it is distant $1\frac{1}{2}$ miles, is composed of slate rocks, and is very dangerous. Its S.W. end is always above water, and bears S.W. $\frac{1}{2}$ W., $4\frac{1}{2}$ miles, from the Neptune Rock.

The Brulé Banks are to the westward of the Burnt Cape Ledge, and are joined to it by shoal water. Their northern edge is only 600 fathoms from Cape Brulé, and the depth of water between them is 7 to 10 fathoms. Between their N.E. point and Burnt Cape Ledges there is a bay, but it has no passage through to the westward, and must therefore be avoided. On the N.E. point of the Brulé Banks, in 3 fathoms, the west end of the Burnt Cape Ledge is in one with the east side of Heron Island, bearing S.E.

The Traverse Spit lies between the Brulé Banks and the eastern point of Orleans Island, its N.E. part forming, with the S.W. part of the Brulé Banks, the Eastern Narrows of the North Traverse, which is only 250 fathoms wide; 4 fathoms can be carried through within this breadth. The Traverse Spit and the Horse Shoe Bank to the N.W. of it, as well as the Brulé Banks, dry, for the most part, soon after half-ebb, and thereby greatly lessen the difficulty of the passage.

Four fathoms can be carried into the Traverse, and the mark for leading through the Eastern Narrows into it, is the S.W. point of Reaux Island and Point St. Vallier in one, bearing S.S.W. $\frac{1}{2}$ W. From the Eastern Narrows the Channel runs S.W. by W. close along the southern edge of the Traverse Spit, leaving all other shoals to the southward. At the distance of $2\frac{1}{2}$ miles we come to the Western Narrows, which are also 300 fathoms wide and 4 fathoms deep. The Western Narrows are between the Traverse Spit and the West Sand, a sand which is $1\frac{1}{2}$ miles long, and has 7 feet least water upon it; its eastern extremity is, or was, marked by a chequered buoy. The mark for leading through these narrows, after having arrived as far as the east end of the West Sand, (which will be when Berthier Church is just open of the S.W. point of Reaux Island, bearing S. $\frac{1}{2}$ W.) is Points St. John and Dauphin, on the south side of Orleans Island in one, bearing S.W. $\frac{1}{2}$ W.

Having cleared the Western Narrows, there is a fine clear passage between Orleans Island and the banks of Madeline Island, not less than two-thirds of a mile wide, and with good anchorage all the way to the South Channel at Point St. John, a distance of nearly 7 miles.

The channel to the northward of the Island of Orleans has water enough for the largest ships, but it is too narrow and intricate for general use. There are also no leading marks which could be made available.

THE MIDDLE CHANNEL lies between the shoals and islands which form the northern side of the South Channel, and the long line of shoals and reefs, which extend from Coudres Island to Reaux Island, at the east end of the Island of Orleans. The entrance, to the north of the Seal Islands, has not more than 3 fathoms at low

water; but having passed this shallow part, there is depth and room enough for the largest ships, until we arrive at the Bayfield Islands, where the Middle Traverse communicates with the South Traverse by various narrow passages between the islands. There is plenty of water at all times in most of these passages, but the tides set strongly through them; and though it would be possible to take even the largest ships up to Quebec by the Middle Channel, were it requisite from any cause to do so, yet they are too intricate and difficult for general navigation.

THE SOUTH TRAVERSE.—Between Point St. Roque and St. Thomas the south shore of the St. Lawrence is low, but gradually rises into wooded ridges of considerable elevation at the distance of a few miles back from the river. All along the south shore the houses are numerous, and are grouped into villages round the Churches of St. Jean, Ialet, St. Ignace, and St. Thomas, where supplies may always be obtained. The Churches of St. Roque, St. Jean, and Ialet stand low down near the water's edge, and are distant nearly 7 miles from each other, the last being opposite to Goose Island Reef. The River Jolie lies about $\frac{1}{2}$ miles above or to the south-westward of the Church of St. Jean; and the River Trois Saumons a mile farther in the same direction: both afford shelter to small craft and good landing for boats, excepting at low water, and there are 12 feet water in their entrances at high water, spring-tides. At 13 $\frac{1}{2}$ miles to the westward of the Church of St. Jean lies that of St. Ignace, which stands about three-quarters of a mile back from Cape St. Ignace, a small round, rocky peninsula, which will be easily recognized. At $\frac{1}{2}$ miles to the westward of the Church of St. Ignace lies that of St. Thomas, which stands on the western bank of the River Sud, and nearly opposite the west end of Crane Island. The River Sud falls into the St. Lawrence, by a cascade of 30 feet just within its entrance.

In this extent of coast shallow water extends out to a considerable distance, and is generally called the South Bank. The part of this bank which projects 4 miles out from Point St. Roque to the lightvessel at the Traverse, and is known by the name of the Shoal of St. Roque, is extremely dangerous, being composed of a thin covering of sand, mud, and stones, over slate rock. Over these shoals the depth of water in many parts does not exceed 9 or 10 feet.

The Narrows of the South Traverse lie between these shoals and the Middle Ground; the east end of the Middle Ground lies with the east end of Coudres Island N.W. by W., distant $\frac{3}{4}$ miles. The narrowest part of this channel is pointed out by a lightvessel, bearing a fixed light, which lies $\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ S. from the black buoy* on St. Ann's Shoal; these must be left on your port hand going up. The utmost attention is requisite here, as it is considered, and with reason, to be the most intricate part of the river, and the currents are various, irregular, and strong. In the middle of the river a bank stretches all the way from Hare Island to the Middle Ground; it is generally about a mile wide, with 8 to 14 fathoms on it; this was formerly named the English Bank. The soundings are regular, and the bottom sand and mud, affording good anchorage.

At nearly a mile W. by S. of the lightvessel is a red buoy on the Middle Ground, to be left on the starboard hand; and nearly opposite is a black buoy on the Shoal of St. Roque, to be left on your port hand; and 2 miles S.W. from this is a black buoy, to be left on the port hand, opposite to which is a red buoy on the S.W. end of the Middle Ground, to be left on your starboard hand. The narrows extend from these latter buoys to the lightvessel, a distance of 3 miles, and are little more than one quarter of a mile wide, with 4 to 10 fathoms at low water, spring-tides. Another black buoy lies nearly $\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. from the last black buoy, and is to be left on your port hand; there is also a black buoy on a 12 feet patch off St. Jean, 2 miles further to the S.E. westward, and a little farther on is a chequered black-and-white buoy, on the Traverse Patch, of 3 fathoms, to be left on your starboard hand; but there is plenty of water on the north side of this buoy. From hence a S.W. by S. course $\frac{1}{2}$ miles, brings you abreast of the Stone Pillar, on which is a revolving light.

The Pillar.—The Avignon, a half-tide rock, round on the top, and dry at three-quarters ebb, lies at the distance of 2 cables' length, S.E. from the body of the Stone Pillar, with a depth of 7 fathoms close to it. Crane Island, kept well open to the southward of the large reef off Goose Island, leads clear to the southward of it. The

* By a recent official notice, all the buoys on the south bank are said to be those on the north bank red, with a few exceptions.

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Pilier Boisé, or Woody Pillar, a high round rock, with trees on the western part of it, lies at a mile and a quarter to the west of the Stone Pillar. At half a mile to the east of it is a rock named the Middle Rock, with a beacon upon it, dry at half-ebb. To the northward of the Pillars or Pillars are the Seal Islands and Reefs, having an extent of nearly 4 miles N.E. by E. and S.W. by W. In a considerable extent the rocks which form these reefs are dry at low water. The bank on which they lie is extensive on the N.E. towards Coudres Island. At $1\frac{1}{2}$ miles S.W. $\frac{1}{2}$ W. from the Stone Pillar, is the commencement of a ledge of high rocks, named the Goose Island Reef, extending thence $3\frac{1}{2}$ miles S.W. $\frac{1}{2}$ W., the western part of which is composed of rocks, always above water, and steep to on their south side. There is a narrow channel, only fit for small craft, between it and the N.E. end of Goose Island, to which it lies parallel at the distance of a long half-mile.

On the Stone Pillar there is a light revolving every $1\frac{1}{2}$ minutes. The building is 38 feet high, and the light being shown at an elevation of 68 feet above the water, can be seen about 13 miles off.

GOOSE ISLAND is connected by low meadow land to Crane Island, the whole of which occupies an extent of 11 miles in a direction of N.E. $\frac{1}{2}$ E. and S.W. $\frac{1}{2}$ W. From the south side of this low land a shallow flat runs off nearly a mile, and narrows the channel very much as you approach the Beaujeu Bank, on each end of which a white buoy is now placed. The eastern buoy lies with Union Island N.W. by W. $\frac{1}{2}$ W., and the western buoy with the farm-house on Crane Island N. by W. A farm-house may be seen on Goose Island, to the eastward of which, and close to low-water mark, there is a large rock named the Hospital Rock. Two miles and a half to the westward of this rock is a long reef, dry at low water, but it is out of the fairway, and close along the island. The north side of Crane Island is in a good state of cultivation. On drawing toward it you will see a farm-house on the east end. To the S.E., at half a mile from this house, is the edge of the Beaujeu Bank, a narrow shoal, which extends 2 miles thence to N.E. $\frac{1}{2}$ E., and has, on its shoalest part, only 6 feet at low water. It is separated from the flat that runs off from the main by a channel, having 4 to 5 fathoms in it, but just within the west entrance of this channel lies a knoll, of only 12 feet. The channel between Beaujeu Bank and the eastern end of Crane Island has 4 to 5 fathoms in it; but its breadth scarcely exceeds a quarter of a mile. Two red buoys are placed on the N.W. side of this channel, opposite to the white buoys on the Beaujeu Bank.

BAYFIELD ISLANDS lie to the west of Crane Island. Exclusive of a number of small islets and rocks, the principal are Canoe Isle on the north side of Crane Island; the Margaret Island; next westward is the Grosse Island; and the Isle du Reaux, and the westernmost is Madame. The whole of these islands, from Crane Island to the west end of Madame Island, occupy a space of 14 miles. There are several passages between the isles, but they are too intricate to be understood without reference to the chart.

A reef of rocks extends half a mile from the western end of Crane Island, and dries at low water; and a shallow spit runs out $1\frac{1}{2}$ miles farther westward, on which a red buoy is placed, with St. Thomas's Church bearing S. $\frac{1}{2}$ E. $\frac{1}{2}$ S. Grosse Island is inhabited, and is 2 miles in length, lying N.E. by E. and S.W. by W.

Reaux Island is about 150 feet high, and rather longer than Grosse Island, but narrower. Madame Island is somewhat smaller than Reaux Island; both are covered with trees. A rocky reef extends S.W. by W., $2\frac{1}{2}$ miles, from Madame Island, and dries for the most part at low water; and ships ought not to go nearer to it than 7 or 8 fathoms water. The mark to clear it is, some part of Reaux Island kept open to the southward of Madame Island. The western extremity of the reef lies with St. Vallee's Church bearing S. $\frac{1}{2}$ E. A red buoy now marks the western point of this reef, which here divides the western extreme of the north from the south channel.

At Grosse Island is the quarantine station, the entrance to which lies between the island and Margaret Island; and is marked by a red buoy on the south, and a obsequed buoy on the north side; your course in from the South Channel is about N. by E.

POINT ST. THOMAS ON THE SOUTHERN SHORE.—Point St. Thomas is low, and 3 miles W. $\frac{1}{2}$ N. from the entrance of the River Sud.

From the lap of St. Thomas a flat, or mud-bank, partly dry at low water, named the Bank of St. Thomas, extends more than half-way over toward Crane Island. Its

northern extremity is 2 miles S.W. by W. from the south point of the island; at this extremity a black buoy is now placed, with St. Thomas's Church bearing S. $\frac{1}{2}$ E.

The Wye Rocks lie immediately to the north of the Point of St. Thomas. They are separated from the western part of the Bank of St. Thomas by a channel nearly a quarter of a mile wide and 4 fathoms deep. They form a narrow ridge 400 fathoms long in a S.W. direction, and have 4 feet least water at their western end. The clearing mark is Belle Chasse Island and Point St. Vallier touching; this leads about 2 cables to the northward of the rocks, and also along the northern edge of the Bank of St. Thomas, in 4 fathoms.

At $5\frac{1}{2}$ miles W.S.W. $\frac{1}{2}$ W. from Point St. Thomas is situated Berthier Church and Village. The intermediate shore is rocky and rather low, with shoal water extending off it a third of a mile. Close to the eastward of the church is situated the Tron de Berthier, a tide harbour for the river craft, and dry at low water.

Belle Chasse Island lies parallel to the shore, and its west point bears W. by N., a mile, from Berthier Church, and not more than $2\frac{1}{2}$ fathoms can be carried through between the island and the main. The island is composed of high, steep, and bare greywacke rocks. North from the centre of the island, and at a distance of 110 fathoms, lies a small pointed rock, nearly dry at low water, and with from 4 to 6 fathoms between it and the island. A shallow bay lies within the island to the S.W., and the small river Belle Chasse.

At $2\frac{1}{2}$ miles W. $\frac{1}{2}$ S. from Berthier Church is situated Point St. Vallier, which is remarkable as being higher than any other point below it on the south shore, above the Traverse. At $3\frac{1}{2}$ miles W. by S. from Point St. Vallier is situated Point St. Michel, which is very low. Reefs of slats, dry at low water, extend a considerable distance to the N.E. from both these points, but especially the latter. On the shore of the shoal bay between Points St. Michel and St. Vallier, and at 2 miles S.W. by W. from the extremity of the latter, stand the church and village of St. Vallier. The Bank of St. Vallier fills the whole bay between these points, and extends nearly three-quarters of a mile to the N.E. from Point St. Michel. At 2 miles W. by S. from Point St. Michel stand the Village and Church of the same name, and at Point Durantaye, a mile to the westward of the church, shoal water extends only 100 fathoms off shore.

The *Beaumont Reefs* commence from Point Durantaye, extending more and more from the shore until opposite Point St. Lawrence, on the Isle of Orleans, where their northern edge, in 3 fathoms, is nearly three-quarters of a mile off shore. They extend less from the shore as we proceed farther to the westward, and may be considered to cease about a mile to the westward of Roy's Mill, the shoal water there reaching only 130 fathoms from the shore. These shoals are rocky, and dry in part at low water; and their northern edge is steep with very deep water close to. The warning by the lead is insufficient in a vessel going fast, and therefore these shoals should be approached with great caution. A black buoy is now placed on the northern edge of the Beaumont Reefs, with St. Lawrence Church bearing North.

At 5 miles W.S.W. of St. Michel stand Beaumont Church and Beaumont Mill, and a mile to the westward of Beaumont Mill is situated Roys Mill, where there is a waterfall. At $6\frac{1}{2}$ miles from Beaumont Church stands St. Joseph Church, on Point Levi. Between Point Levi and Roys Mill the shoal water nowhere extends above a quarter of a mile from the shore. Off Point Levi a reef extends 180 fathoms to the northward, and should not be approached nearer than 10 fathoms from between the north and west, or 7 fathoms from between north and east.

THE ISLAND OF ORLEANS.—This island is 18 miles long, and its extreme breadth is $4\frac{1}{2}$ miles. It rises gradually from generally steep banks to the central elevation, estimated at 350 or 400 feet above the water. It forms by its southern shore the northern side of the South Channel, from opposite Madame Reef to within 8 miles of Quebec, a distance of nearly 14 miles. Its northern shore is flat and muddy, with a reef of rocks running along it; but, on the southern side, it is fine sand, with a few pointed rocks rising up here and there.

The Churches of St. John and St. Lawrence stand near the southern shore, the distance between them being $5\frac{1}{2}$ miles; this part is highly diversified with gardens and houses. Patrick's Hole is a little to the westward of Point St. Lawrence, and is a safe and well-sheltered cove, where vessels outward-bound commonly anchor in 10, 12, or

14 fathoms, previously to taking their final departure; the ground cannot be considered good, but it is well sheltered from easterly gales, and the river here is bold on both sides, and is about $1\frac{1}{2}$ miles wide. On the western part of the point is a cluster of neat houses, where accommodations of all kinds may be obtained.

About a mile eastward of the west end of Orleans are the Marand Rocks, running out $2\frac{1}{2}$ cables' length from the shore; they have 6 to 9 feet water over them, and 10 fathoms in sailing past them. At the S.W. part of the island are other rocks, which dry at low water; these are close to the land, and may be safely passed in 10 fathoms water. The Church of St. Peter is situated about 4 miles from the western point, and nearly opposite to the Falls of Montmorenci.

QUEBEC.—The Basin of Quebec is about $1\frac{1}{2}$ miles wide from Point Levi across to the shore of Beaufort, and about 3 miles long from the west end of Orleans to the India Wharf at Quebec. The Harbour of Quebec extends from off the River St. Charles up to the Chaudière River, a distance of 5 or 6 miles.

The Port of Quebec comprehends all the space between Barnaby Island and the first rapid above Montreal. Information respecting quarantine is given to the commanders of vessels by the pilots when they first come aboard; and a book containing the by-laws and harbour regulations of the Trinity Board is delivered to each vessel on her arrival by the harbour-master.

The City of Quebec is situated on Cape Diamond, and it is difficult to imagine anything more beautiful than the view which suddenly bursts upon a stranger ascending the St. Lawrence and entering the Basin of Quebec, as the vessel opens out the Falls of Montmorenci on the one hand, and the City of Quebec on the other.

The navigation of the River St. Lawrence is closed by the ice from about the 25th November to the 1st May. The navigation sometimes, although rarely, closes by the middle of November, and remains closed to the 6th or 10th of May; at others it would be possible to navigate it till near Christmas, and ships have arrived in the middle of April; but these are extraordinary seasons, and the period first named is that during which the navigation usually remains closed. The river seldom or never freezes below Quebec, and only occasionally opposite the city; but it is full of heavy ice, moving up and down with the tides with irresistible force. There is generally, but not always, a bridge of packed ice formed 5 or 6 miles above Quebec; and higher up, as far as Lake Ontario, the St. Lawrence is everywhere frozen across, excepting in places where the current is very strong.

The River St. Lawrence extends from Quebec to the city of Montreal, from which it is distant 155 miles, and from the Island of Bic 90 leagues; it is navigable to the Rapids of Richelieu for vessels of 600 tons; the impediments are few, and those very easily surmounted.

From Quebec, the shores of which are exceedingly lofty, the hills gradually decline, and become less elevated, until you reach the River St. Maurice, where the tide entirely ceases: here, on the north side of the river, stands the town of the Trois Rivières, or Three Rivers, beyond which, at the distance of 33 miles is the Richelieu Rapid, at the entrance of which, and above the Lake St. Pierre, is the town of William Henry, formerly named Sorel. Lake St. Pierre is 32 miles long, and in some places nearly 8 in breadth; but its western part is encumbered with numerous islands, which divide it into several channels, two of which are navigable: but that on the south is the cleanest, deepest, and best, and is pointed out by a light vessel and buoy. The banks here are low, and shelve off to a considerable distance, leaving only a narrow channel of from 12 to 18 feet water: the river here is obstructed by masses of rock, and at the ebb-tide the descent of the rapid becomes so great, that the utmost caution must be taken to pass it; vessels, therefore, should wait for a proper time of tide, and, if necessary, they may anchor at the bottom of the rapid until a proper opportunity occurs. From hence to Montreal the banks are of moderate height, and uniformly level.

Montreal is estimated as the most fertile part of Lower Canada: its port is convenient, and situated on the S.E. of the city. The harbour is not large, but vessels drawing 15 feet water can lie close to the shore; near the Market Gate, and both deliver and receive their cargoes with expedition: the depth is generally from 3 to 4 fathoms: its great inconvenience arises from the Rapids of St. Mary, which is about a mile below, whose current is sometimes so powerful, that without the benefit of a N.E. wind, or a steam-boat, vessels may be detained for weeks within two miles of the spot where their freight should be delivered.

TIDES IN THE RIVER ST. LAWRENCE.

Between Quebec and Montreal steamers regularly ply; and ships bound to Montreal with cargoes, may engage steamers for towing at Quebec. There is a regular rate of charges for towing ships, according to their draught of water and breadth of beam, for the whole or any intermediate distance that may be required.

TIDES IN THE RIVER ST. LAWRENCE.

On the days of full and change, it is high water in the river as follows:—Near Cape de Monts, on the north side, at 1h. 52m. In Manicouagon Bay, at 2h.; here spring-tides rise 12, and neaps 7 feet. At Bersimis Point, 2h. On the south coast, near Cape Chatham, the time is 1½h. Here spring-tides rise from 12 to 14, and neaps 8 feet. Off the river Matan, the time is 2h.; springs rise 12, and neaps 6 feet. Metis Bay, the time is 2h. 10m.; springs rise 13, and neaps 8 feet. At Grand about, the current on the surface always runs downward, from 1½ to 2½ knots.

The time of high water at Green Island, is 2h. 45m.; spring tides rise 10, and neaps 9½ feet. In the middle of the river, off the eastern part of this island, the flood from the north shore turns to the southward and sets thence eastward off the south shore; and thus below the Isle Bic, the stream sets constantly downward, at the rate of 1½ to 2½ knots as before mentioned.

At Kamourasag, 4h.; at the Brandy Pots, 3h.; in the Traverse, 4h. 30m. Off Point St. Roch or Roque, 4h. 50m. Here it ebbs 6½ hours, and flows 5½. At the Isle Bic the stream never bends to the westward until an hour's flood by the shore. The neap-floods are here very weak; and, with westerly winds, none are perceptible. A spring flood is, however, always found, within 4 miles of the shore, between Father Point and Bic. The ebb-stream from the River Saguenay sets with great force south-eastward toward Red Island Bank. Off Green Island, between it and Red Islet, there is little or no flood, but a great ripple. All the way hence to Quebec, the tide, when regular, flows tide and quarter-tide; but it is influenced greatly by the wind, and by no means to be depended on, as to its running, anywhere below Hare Island, where there is a regular (?) stream of ebb and flood.

Between Barnaby and Bic the stream of flood sets in from the N.E. at the rate of about 2 knots; then fair through the channel until last quarter flood, when it sets to the N.W. by the west end of Bic, and then gradually to the N.E. as the flood slackens. The whole of the ebb, both to the eastward and westward of the island, sets strongly to the N.E. The current between Biquette and the north coast is generally very strong to the N.E., without any regular change. In the summer and autumn, as well as in spring-tides, this current slackens, and, near Biquette, runs to the westward, during flood; but, until the upland waters have all run down, and the great rivers have discharged the freshets, caused by the thawing of the snows in the spring of the year, this current always runs downward.

From Bic to Green Island, on the southern side, the stream of flood is nowhere perceptible at a mile and half from the islands. The ebb, or rather current, comes strongly from the N.W., out of the River Saguenay, and through the channel to the northward of Red Island, and joining the eddy-flood, before explained, increases the constantly downward course of the stream. Here it always runs in a S.E. direction, 3 miles an hour, with a westerly wind; but only so to the southward and eastward of Red Island. Between Red Island and Green Island, the ebb runs from 4 to 6½ knots. In crossing over to the north shore, this easterly current will be found to diminish; for, on the north side, the flood is pretty regular, and the ebb much weaker. Eastward of the Razade Rocks, and near Bic, the current assumes a N.E. direction, and sets strongly between Bic and Biquette. To the southward of Bic, spring-floods run at the rate of a knot and a half; neaps are not perceptible. Ships that come to the southward of Bic, with a scant wind from the northward, must steer W. by N., to check the S.E. current, until they come into 18 fathoms of water, or up to Basque, whence they proceed for Green Island.

The first of the flood, spring-tides, sets from the N.E. along the north side of Green Island, and strongly towards the west end of it; then S. by E. after the reef toward Cacona. In the middle of the channel no flood is perceptible. At two miles to the southward of Red Island it sets strongly to the N.W. and the ebb contrary. During

spring ebbs, the meeting of the N.E. and S.E. tides, near the middle of Green Island, causes very strong rippings: and, to the eastward of Green Island, the S.E. ebb comes strongly about the east end of Red Island; here meeting, the N.E. tide causes a high rippling, much like broken water in strong easterly winds: but in neap-tides, the floods are very weak, and in the spring of the year there are none. This renders the part of the river now under notice more tedious in its navigation than any other, unless with a free wind.

From the west end of Green Island a regular stream of flood and ebb commences, which runs five hours upward and seven downward. At the Brandy Pots it flows tide and quarter-tide; and, above the Percée Rocks, on the south shore, it sets regularly up and down, N.E. by E. and S.W. by W.

From the Brandy Pots, the stream of flood sets toward Hare Island; and near the west and N.W. with great strength, through the passage between the island and shoal. Above Hare Island, the flood sets regularly up the river; the ebb contrariwise. From the Pilgrims up to Cape Diable the flood is very weak, but it thence increases up to the buoys of the Traverse, where it runs at the rate of 6 knots. The first of the flood sets towards the English Bank and Hare Island Shoal, when abreast of the greater island of Kamourasca, and the ebb contrary. In La Prairie Bay, on the north side of the Isle aux Condres, the time of high water is 4h. 25m., and here it flows six hours; the ebb stream continues an hour and a quarter after low water, and the flood three-quarters of an hour after high water.

The tides in the North Channel being half an hour earlier than in the Southern channels, the first of the flood sets strongly on the St. Roque and St. Anne's Banks; and the first of the ebb sets strongly across the shoals in the middle of the river. In the Traverse, spring-tides rise 18, and neaps 11 feet.

At the South Traverse, on the full and change, the tide on-shore flows at half-past four, but it continues to run to the westward until six o'clock, when regular in the channel. With westerly winds there is a deviation, but it is certain that the tide on shore rises 3 feet before the stream bends to the westward; and this allowance must always be made in every part of the river. In the Traverse, the first of the flood sets from N.N.E.; at the buoys, at a quarter flood, it takes a S.W. direction, and when the shoals are covered at half-flood, at the Seal Reefs, it sets until high water S.W. by W. The ebbs in a contrary direction run with great strength; frequently in the spring of the year at the rate of 6 or 7 knots.

Between the Piliers, or Pillars, it is high water at 5h. The ebb here runs 6 hours and 50 minutes; the flood 5 hours and 25 minutes. Both streams continue to run an hour after high and low water by the shore. From Crane Island the flood sets fair up the river, but the first of the ebb off L'Islet sets to the northward for half an hour, then fair down the river, and at the rate of not more than 3½ knots in spring-tide.

At the Isle aux Beaux, or Rat Isle, below Orleans Island, it is high water at 5h. 32m. It ebbs by the shore 7 hours, and flows 5 and a half; the streams run an hour later. Off the S.W. end of Madame Island, it is high water at 5h. 40m.; springs rise 17, and neaps 13 feet. At Quebec, the time of high water is 6h. 37m. Here it ebbs by the shore seven hours and forty minutes, and flows four hours and forty-five minutes. Both streams run an hour after high and low water by the shore. Springs rise 18, and neaps 13 feet.

DIRECTIONS FOR SAILING UP THE RIVER ST. LAWRENCE FROM ANTICOSTI TO QUEBEC.

THE current from the river sets continually down to the south-eastward between the S.W. point of Anticosti and the coast of the district of Gaspé; but in the spring of the year it is strongest, and is caused, as is supposed, by the vast quantity of snow which thaws about this time. In summer it may be averaged at about the general rate of 2 miles an hour; but in spring, its rate, though it has amounted to 3½ miles an hour, varies according to the quantity of ice and snow that has accumulated. It has been said that there is a difference of 2 or 3 feet in the level of the river between the months of May and August, which has been supposed to arise from the quantity of ice and snow melted in the spring.

DIRECTIONS FOR SAILING UP THE RIVER

Those advancing towards the river, in the fairway between the S.W. point of Anticosti and Cape Rosier, with the wind from the North or N. by E., if ignorant of the south shore. This is to be guarded against, particularly during a long night, or in dark and thick weather: It is always best to tack in time, and get out of the strength of the current, which will be found to diminish towards the north coast.

If you are far enough to the westward to weather Anticosti, when coming up with contrary winds, you must stand to the northward and keep within 3 or 4 leagues of the land up to the extremity of the Cape de Monts. The land is all bold, and the tide along it favourable. After getting up to Trinity Cove, or the coast to the N.E. of the cape, the flood will be found setting along the north shore.

When between the S.W. and west points of Anticosti, both the currents and swell set in shore; and as the bottom is bad, the anchors will not hold; therefore, the greatest caution is necessary, on the first appearance of a decrease of wind; to endeavour to stand off the land; or, in the event of a calm, you might be set on shore, by the current, near the St. Mary's cliffs, as a heavy swell sets in frequently some hours before there is any wind.

When off the west end of Anticosti, with a fair wind, steer well to the northward, so as to keep out of the strength of the current, steering about W.N.W., or towards English Point; when you have run better than half of the distance, you must steer more southerly toward Point de Monts, and endeavour to make the light, which is situated not on the extreme point, but $1\frac{1}{2}$ miles N.E. of it; and there are rocks $\frac{1}{2}$ a mile from the point. In thick weather this is a most dangerous part of the navigation; for when the wind is fair it is generally thick; and the greatest caution is necessary when approaching this point; the ship should be put under snug canvases, and the deep-sea lead be kept going; for if you are to the northward of the point, soundings will be obtained 5 or 6 miles from the land, in 40 to 50 fathoms. The vicinity of Cape Chatte has long been the dread of mariners navigating this river, from the number of wrecks, and still more numerous hair-breadth escapes that have occurred near it; the errors in the variation in the old charts, the current and local deviation, all tending to draw vessels upon the south shore.

In clear weather you may run along the south shore; from off Cape Chatte, a W. $\frac{1}{2}$ S. course, 11 or 12 leagues, will bring you abreast of Matan, the paps of which, when on a S.W. bearing, will appear as two hills standing somewhat inland; Mount Camille will also be visible, bearing W.S.W. distant 14 or 15 leagues, in the shape of a circular island, and appears to the northward of all the southern land. From off Matan to abreast of Mount Camille, steer W. by S., according to the wind. Continuing that course, you will pass Little and Great Metis; and continuing on W. by S., 6 leagues from Great Metis, you will arrive at Father Point, the principal residence of the pilots, and from which Mount Camille bears S.E. $\frac{1}{2}$ E.

Great Metis is 2 leagues west from Little Metis, and is also only fit for small vessels, which may find shelter and anchorage with S.W. winds; but as the place nearly dries, it is of little use to shipping. Little Metis may be distinguished from Great Metis by a round bluff rock, lying S.E. from the north reef, distant $1\frac{1}{2}$ miles, and a small sugar-loaf hill to the eastward of the rock. Great Metis has a large rock in the middle of the cove; Little Metis has none; but you must be within 2 or 3 leagues of the shore to distinguish these coves, for the points of land by which they are formed are very low. The bank of soundings extends 4 or 5 miles off from these coves; but to the eastward of Matan you will have 60 fathoms only 3 miles off the shore.

When beating up, it requires a tolerably good sailing vessel, and a flood-tide, to beat past Point de Monts against a wind right out; but short boards round the point, and along the north shore, up to Cape St. Nicholas, will most readily succeed. It is not, however, advisable to keep this shore close aboard farther to the westward, lest the wind should fall to a calm; for there is a strong indraught towards the mouth of the Manicougon River during the flood-tide. If an easterly wind should chance to spring up, after the vessel has been drifted near the mouth of English Bay, it might be difficult to beat out, or weather the eastern side of the Manicougon Shoals.

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A vessel standing over to the southward from Point de Monts, with a west wind on the starboard tack, will be carried over to the south coast at a rapid rate, having the current on the weather quarter; during her board tack she will be retarded, the current then being directly opposite to her course. When sailing at the rate of 4 knots, it will usually require only about half the time to go from Point de Monts over to the south shore, that it will take to return from the latter to the former. This is a most important circumstance, which it is necessary to guard against when beating up during dark nights, and especially in foggy weather.

When running up, during foggy weather, when the land cannot be seen, the object should always be to strike soundings on the bank along the south coast, about Metis, or Father Point at farthest; and then following it as a guide to the westward. Father Point is low, covered with houses, and the regular rendezvous of the pilots. With the point bearing South, by compass, distant 5 miles, the depth is 30 fathoms, soft clay; but you may haul in-shore to 10 fathoms, in foggy weather; and by bringing to with your head off, and firing a gun or two, you will get a pilot off.

The distance from Cape Chate to the west part of Father Point is about 24 leagues; and from thence to the anchoring place at Bic Island, is 13 miles; make an allowance for the current, and any ship may run it with safety.

While advancing from the eastward toward Father Point, and being off Little Metis, the high land to the southward of Cape Arignole may be seen before the cape itself or Isle Bic comes in sight. From off Mount Camille, in clear weather, Bic may be clearly seen. To avoid mistaking Barnaby Isle for that of Bic, observe that, in thick weather, a ship cannot approach the land, near Father Point, without gradually shoaling the water; consequently if, while keeping the lead going, you come into 8 fathoms, and make an island suddenly, it must be Barnaby; or, if falling in with an island on any bearing to the westward of W.S.W., one east of the lead will be sufficient to ascertain which it is; for, with Barnaby from W.S.W. to W. you will have from 7 to 5 fathoms only; but with Bic on the same bearings you will have from 15 to 12 fathoms. But the lighthouse on Biquette will remove the possibility of this mistake.

If, with the lead kept going, and no soundings be found, you suddenly fall in with an island to the southward, it must be Biquette. With this island, S.W., half a mile, there are 16 fathoms of water. At 3 miles east from it are 10 fathoms, and a ship advancing into this depth, from the deeper water, may either haul off to the northward, and wait for clear weather, or proceed by sounding around the reef from the east end of Bic; steer thence West, 3 miles; and come to an anchor, within the island, in 12 or 11 fathoms. At 4 miles north of Biquette are 50 fathoms of water.

With an easterly wind, if requisite to anchor on the south side of Bic, to proceed from windward, run boldly to the southward, and look out for the reef extending from the east end of the island; the latter may be seen, being always above water. Give the reef a berth of a quarter of a mile, and run along, in mid channel, until Cape Arignole bears S.S.E., the body of the Island then bearing N.N.W. In 10 or 11 fathoms is a large ship's berth, the ground clear and good. Small vessels may run up until the Island bears N.E. in 9 fathoms, at about a quarter of a mile from the island, but here the ground is not so clear as in the deeper water. Fresh water is obtainable in the cove just to the westward of the east end of the island.

If, during a westerly wind, a ship should be to the windward of the island, and it be required to bear up, in order to anchor, stand to the southward, into 11 fathoms; then run down and anchor, as above directed; but particularly noticing that, with little wind, 10 fathoms is the proper depth of the fairway, and that the last quarter-flood, and all the ebb, sets strongly between Biquette and Bic.

Should you, with the wind easterly, be too far to the westward to fetch round the east end of Bic, in order to gain the anchorage, give Biquette a berth of half a mile, then run up until the west end of Bic bears S.E., when Cape Arignole will be open of it. The latter mark leads to the westward of a reef that covers at high water; and bears west 1½ miles from Biquette, while another reef always visible, lies between the former and Biquette. By hauling round to the southward, with Cape Arignole open, you will pass athwart the opening between Bic and Biquette, in from 16, to 12, 10, and 9 fathoms; the water thence shoals into 6 fathoms, on

DIRECTIONS FOR SAILING UP THE RIVER

the spit of mud and sand lying S.W. by W. from Bio, 1 mile. After crossing this spit, you will deepen into 9 and 10 fathoms, when the passage will be open, and you may come to an anchor.

The N.W. ledge of Bio, the west end of that isle, and Cape Arignole, are nearly in a line when bearing S.E. When beating into Bio, from the westward, while standing to the southward, do not shut in Mount Camille with Cape Arignole, or, in standing to the northward, do not shut Mount Camille with the Isle Bio.

In foggy weather it is not recommended to run inside of Bio without a pilot, unless you are very well acquainted; and this passage must at all times be run for with great caution.

Bank of Soundings.—In the offing, between Barnaby and Bio, are regular soundings, decreasing from 36 to 30 fathoms, generally of clean ground. Ships may, therefore, anchor in any depth, but no nearer than a mile and a half, with Bio bearing from W.S.W. to S.W., as otherwise the channel on the south of that island will not be open; and, with a sudden shift of wind, you may not be able to quit the island.

At N.W. from the eastern extremity of the S.E. reef of Bio, and just to the southward of the stream of Biquette, is the N.E. reef, a dangerous ledge, seen at low water, spring-tides only. To avoid it, give Bio a berth of $1\frac{1}{2}$ miles. Westward of Bio the edge of the bank of soundings trends to the south-westward up to Basque Isle, and ships may therefore stand safely to the southward by the lead, 12 fathoms being the fairway.

ISLE BIO TO GREEN ISLAND.—From the Isle Bio, Green Island bears S.W. by W. $\frac{1}{2}$ W. $9\frac{1}{2}$ leagues; and the course will therefore be from W.S.W. to S.W. according to the distance northward from Bio, &c. In this course and distance, you pass the Alcide Rock, the Razades, Basque, and Apple Islands. From the Rocks of Apple Island to the eastern reef of Green Island, the bearing and distance are W. by S. 3 miles. This reef extends nearly a mile from the trees on the east end of Green Island, and is always uncovered. The small channel on the south side of Green Island is nearly dry at low water.

The edge of the bank is steep to the northward of the Razades, &c.; but from 36 fathoms, inward, there are gradual soundings. Between Bio and Green Island there is anchorage all the way in 14 fathoms; and for small vessels, in fine weather, in 9 fathoms. If up to the east end of Green Island, and the tide be done, you may anchor in 10 fathoms, off the reef, and in the stream of the ledge extending N.E. by N. from the lighthouse point, at the distance of a mile from the extremity of that shoal.

Between Bio and Basque the ground is all clean; but thence to Green Island it is foul. A small vessel may find shelter under the east end of Basque, in $2\frac{1}{2}$ fathoms at low water, giving the east end of the reef extending from that island the berth of a quarter of a mile. The anchorage is with the island bearing W. by S.

The lighthouse and reefs about Green Island have been already described. The lighthouse bearing S.W. by W. leads safely up to Green Island. The high land to the southward of Cape Arignole kept open to the northward of Basque Island, leads clear of the lighthouse ledge. With the lighthouse bearing S.W. by S., this ledge will be exactly between the ship and lighthouse.

Between the lighthouse and the west end of Green Island, in fine weather, you may stop tide in 20 or 25 fathoms, close to the north side of the island; but, if the wind be fresh, the ground will be bad for holding, and too near the shore. During N.E. winds, small vessels may anchor between the S.W. reef and Cacous, in 4 fathoms; but it will be better to bear up for the Brandy-Pots, lest they be caught by adverse weather, &c.

Should you, therefore, have passed the lighthouse on Green Island, and no pilot be obtained, the weather clear and the wind fair, steer boldly on S.W. $\frac{1}{2}$ W. or S.W. by W. 3 leagues, you will then have White Island W. by S., and Hare Island with the quarters of a mile and run on a mile or more above them, then anchor in from 7 to 14 fathoms; or should the wind shift to the westward and your vessel be up to White Island, the tide being spent, stand to the southward into 9 fathoms, or towards White Island into 6 or 7, then anchor; the ground is good for holding.

Red Island bears from the lighthouse of Green Island N.W. by W. $\frac{1}{2}$ W. nearly $5\frac{1}{2}$

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miles. The eastern extremity of its extensive reef bears from the same lighthouse nearly N.W. by N., and is cleared by the lighthouse and beacon on Green Island in one, bearing S.S.E. $\frac{1}{2}$ E. When coming up in the night, that light should not, therefore, be brought to the eastward of the light on E., until you are certainly within 5 miles of it. If, with the light bearing S. by E., you cannot make free to enter the narrows, wait for daylight; and, should the wind be scant from N.W., you may then borrow on the south side of Red Island, but so as to have White Island bearing S.W. $\frac{1}{2}$ W. On drawing to the westward, you may approach the shoal of White Island by the lead, remembering that the ebb-tide sets strongly down between White Island and Red Island, and the flood in the contrary direction. A vessel may anchor, in fine weather, on the south side of Red Island Reef, in 12 fathoms, at the distance of about three-quarters of a mile. The tide hereabout, as already shown, sets in all directions. The lighthouse of Red Island has already been mentioned in the body of the work.

The soundings between Green Island and Red Island are very irregular. At a mile from each are nearly 30 fathoms of water. The water, during ebb-tide, with an easterly wind, appears broken, but there is no danger. The mark to sail through between Green and Red Islands is the Brandy-Pots bearing S.W. $\frac{1}{2}$ W.

THE NORTH COAST.—The Point de Mille Vaches bears from Biquette N.W. by W. $4\frac{1}{2}$ leagues. The extensive shoal, which surrounds this point, commences off the river of Port Neuf, on the east; and has its southern extremity at $1\frac{1}{2}$ miles from shore, and very steep-to; the greater part of the shoal is dry at low water. Above the point the land forms the Bay of Mille Vaches, which is shoal, and full of rocks. At 11 miles S.W. by W. from Point Mille Vaches, are two islets, named the Esquamine Isles. In the Bay, at 4 miles west from the point, is a small river, named Sault de Mouton, having a fall of 80 feet, near the mouth of it, which may always be seen when passing. Between the Esquamine Isles and Saguenay River, a distance of $7\frac{1}{2}$ leagues, S.W. by W., are three small rocky islets, named Bon-desir and Les Bergeronnes, which afford shelter to fishing boats.

In proceeding for the Saguenay River, should the weather be thick, it would be advisable to drop anchor at the Brandy-Pots, until the weather becomes favourable, when the entrance can be easily effected with a leading wind. The leading marks are good, and the entrance a mile wide between the shoals. The Bull (Laboule) is a round mountain on the north side of the Saguenay, about 4 miles up, and by keeping the Bull open from the points, there is no danger in running in; and when abreast of the port or houses at Tadoussac, they may run up on whatever side they think they have most advantage, but with ebb-tide there is less current on the north-east side of the river.

Other directions have been given in the description of the river on p. 154, and it may be added here that there are good anchorages at the Anse St. Etienne, 10 miles above Tadoussac, at St. Louis Island, 15 miles from Tadoussac, at the Anse St. Jean, 22 miles, and at the Baie de l'Eternité, 28 miles above Tadoussac, at all of which vessels might lie well to load; in other parts of the river the depth is far too great to anchor.

Ships working up on the north side, between the Esquamine Isles and Red Island, should keep within 2 leagues of the north land: the shore is clear and bold, and the flood pretty regular. But, should a ship, to the northward of Red Island, be caught by a sudden shift of easterly wind, so that she cannot fetch round the east end of Island Reef, she may safely bear up and run to the westward, giving Red, White, and Hare Islands, a berth of 2 miles in passing. At 3 leagues above Hare Island, she may haul to the southward, and enter the south channel toward Kamourasac, and thence proceed as hereafter directed.

GREEN ISLAND TO THE BRANDY-POTS.—The Percée Harb., Barrett Lodge, White Island, and the Brandy-Pots, have already been described. From Green Island to the Brandy-Pots, the course and distance are from S.W. $\frac{1}{2}$ W. to S.W. by W. 4 leagues. The mark to clear Barrett Lodge, is the southernmost mountain of Kamourasac in a line with the saddle of the Great Pilgrim, or an islet lying off the N.E. side of Green Island, touching the high land of Cape Arignole: either of these marks will clear the ledge, but it is not recommended to go to the northward of it unless you are visiting the anchorage at the Brandy-Pots.

In advancing toward the White Island, you may trust to the lead, but 7 fathoms is near enough to tack or anchor in, as this depth is in the fairway to the

DIRECTIONS FOR SAILING UP THE RIVER

Brandy-Pots. The Brandy-Pots are steep on the south side, 10 fathoms being near to them.

There is good anchorage to the eastward of the Brandy-Pots from 9 to 7 fathoms, and good anchorage above them, in from 9 to 14 fathoms. This is the best roadstead of any part of the river; during the easterly winds, excepting that of Crane Island, and is the usual rendezvous for vessels bound down the St. Lawrence, and waiting for a wind.

The best passage is to the southward of the Barrett Ledge and Middle Ground, and between them and the Pilgrim Shoal. The mark is the lighthouse on Green Island just shutting in with the south-west point of the island, and bearing N.E. $\frac{1}{2}$ E., but the lead must be kept going so as not to approach the Pilgrim Shoal too closely. In mid-channel are soundings of 9 to 10 fathoms.

THE BRANDY-POTS TO THE SOUTH TRAVERSE AND GOOSE ISLAND.—The flat on the south side of Hare Island above the Brandy-Pots is bold-to, there being 7 fathoms close to it nearly up to the west end, and the whole of this side of the island is bordered by rocks. When leaving the Brandy-Pots for the south channel the passage is across the 3½ fathoms spit extending between the Middle Ground and the south-east end of the Hare Island Bank; but should your vessel draw more water, it is better to run round to the eastward of Barrett Ledge, which is marked by a buoy, and so enter the channel. Having entered the channel bring the north side of Burnt Island just open to the northward of Grand Island, bearing S.W. $\frac{1}{2}$ W., and it will lead through between the Pilgrims and Hare Island Reef; keep the lead going as the shores on either side are steep-to. When past the red buoy on the west end of Hare Island Bank, the river is all clear to the westward, so that you may stand from the south bank over to the north shore until you are up to Cape Goose.

In standing to the southward from Hare Island, above the Brandy-Pots, you will find 10 to 18 fathoms of water. On the north side of the Middle Bank, 4 to 8 fathoms; but there are 8 and 9 fathoms on the south side of this bank, with gradual soundings to the south shore. Five fathoms is a good depth to tack in.

At night, or in hazy weather, after crossing the Middle Bank from the Brandy-Pots, you should take the north or south side of the channel as a guide, for running up by the lead about 7 fathoms; until you are up as high as the middle of the Long Pilgrim, you may take either side; the south side of the Hare Island Bank should be kept in the above depth, as the western part of the Pilgrims, Banco de St. Andrew, and Kamourasca Islands, are all so steep-to as to give no warning by the lead. When past Kamourasca, keep along the edge of the south bank, in 7 or 9 fathoms, up to the black buoy of St. Ann's; if in a large ship, you may keep off in 10 fathoms.

The direct course from the Pilgrims to the buoy on the St. Ann's Shoal is about S.W. by W., and the distance $7\frac{1}{2}$ leagues. The South Traverse and coast between have been fully described. The bank between the Pilgrims and Kamourasca Isles is steep-to. The mark for tacking here is not to shut the S.W. land with the great Island of Kamourasca: in standing to the northward, you will gain the depth of 20 fathoms.

KAMOURASCA.—From the west end of Crow Island, the third of the Kamourasca Isles, the church bears S.E. nearly a mile. Between is a place where ships may safely be run on shore; to run in, bring the church to bear E.S.E., or some distance to the westward of Crow Island, and run for it. In passing in, you will carry 14 feet in common spring-tides, and 10 feet with neaps. The bottom is of soft mud.

Cape Diabie bears from Crow Island S.W. $\frac{1}{2}$ W. about 3 miles, and a reef extends from the cape as already explained, the easternmost part of which is not more than a mile and a half from Crow Island. Ships from the westward, therefore, in order to get in, should run down along the reef in 6 fathoms, and haul in for the church, as above.

With easterly winds, the large cove on the S.E. of Cape Diabie is a fine place for a vessel to run into, should she have lost her anchors. To enter, bring the church and Crow Island in the line of direction given above. Having arrived within the reefs, run up to the westward, leaving an islet that lies above the church on the left side; then put the ship on shore in the S.W. part of the cove, and she will be safe. Should the wind be westerly, put her on shore a little to the eastward of the church.

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SOUTH TRAVERSE.—From Cape Diable to the South Traverse, the course, if at 3 miles from the cape, will be S.W. by W. $\frac{1}{4}$ W., 5 leagues, which will lead you to the lightvessel at the entrance of the Traverse. The banks on either side of this channel are buoyed. The course through is S.W. $\frac{1}{4}$ S., 4 miles, along the edge of the St. Roque Shoal up to the third black buoy, and thence S.W. by S. to the chequered buoy on the Patch. The passage is then to the southward of the Stone Pillar with its revolving light, from whence you steer S.W. by W. past Goose Island Reef towards Crane Island. In these courses allowance must be made for the tide, which whether ebb or flood runs strongly, and you should stand on the shoal east, as the banks are steep.

If running from off Cape Diable for the Traverse, or in a fog, strike the bank off that cape in 7 or 8 fathoms, and then S.W. By keeping that depth, it will lead to the lightvessel. On passing the St. Roque Shoal, the water will suddenly be found to deepen, whence you may go on southward, keeping the south side on board, and proceed as above.

If entering the Traverse with little wind, be careful to stand on for the first of the flood, as it sets strongly toward the point of St. Roque. When going through, if more than half-flood, allow for a set to S.W. by W., and be sure always to keep the south bank on board. Above the Pillars, or Pillars, the tide sets fair up the river.

In beating into and through this passage, be careful and tack from side to side on the first shoal-east of the lead; but more particularly so to the northward, on the edge of the Middle Ground. Ten fathoms is near enough to the bank; and it is to be remembered, that the ship will always go farther over toward the Middle Bank than to the point of St. Roque Shoal.

Anchorage.—Between the Brandy-Pots and Traverse, there is anchorage all along the English Bank, and upon the edge of the flat on the south side, between the Pilgrims and the greater Kamourasca Isle, in 9 fathoms: under the Pilgrims, in 8 fathoms; off Cape Diable, in 10 fathoms; and thence, along the flat, up to the buoys.

Should the flood be done, when a ship is in the narrows, or between the buoys, or if any occurrence render it necessary to anchor, do not bring-to in the channel, but on either side, as most convenient, and come-to in 7 fathoms; the tides will be found much easier after half-ebb. In the deep water the tides run with considerable strength; therefore if you should be obliged to come-to, do so in 7 fathoms, with a good scope of cable before the tide becomes strong; for, if the anchor once starts, you may have to cut from it, as it seldom takes hold again, the ground being foul and unfit for holding.

Near the Pillars the tides are much easier than below, as at and above them they set at a rate of not more than $8\frac{1}{2}$ miles an hour. Ships bound down, with easterly winds, may anchor at two miles to the north-eastward of the South Pillar, in 7 fathoms; or, to the southward of it, in the same depth, with good ground.

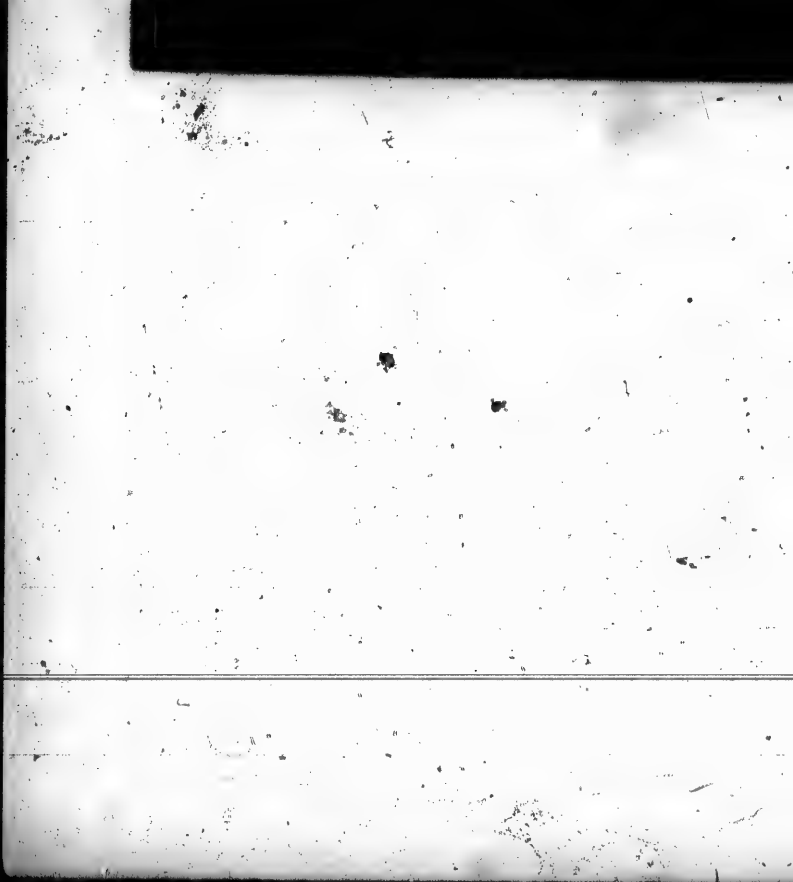
From abreast of the Stone Pillar, or of the Avignon Rock, the direct course and distance to Crane Island, are S.W. $\frac{1}{4}$ W. 4 leagues. On this course you pass Goose Island, and arrive at the Beaujeu Bank, the channel to the south of which is that generally used; the depth in it is irregular, varying from 5 to 8 fathoms; and there are two rocky patches of $2\frac{1}{2}$ fathoms in the way, and difficult to avoid. The marks for passing the southern edge of the Beaujeu Bank, along the eastern half of its length, are, the Stone Pillar, its own breadth open to the southward of Goose Island Reef; and for the western part of the bank, which turns up slightly to the northward towards Crane Island, Point St. Vallier open $\frac{1}{4}$ of a point south of the south side of Crane Island; but must hence take a circuitous route, in order to avoid this and other shoals. The south side of the channel is a muddy flat, of 8 and 2 fathoms, with regular soundings toward it. There is hence good anchorage all the way up to Crane Island. Stand no nearer toward Goose Island Reef than 10 fathoms; but above it you may stand toward the island to 7 fathoms.

When up to the body of Crane Island, you may approach safely, as it is bold and clear, with 7 fathoms close to the rocks.

From off the Pillars to Crane Island, there is all the way, good and clean ground. There is, also, a good road off the body of Crane Island, in 8 fathoms. The best road in the river, during easterly winds, is at a mile to the westward of Crane Island; and









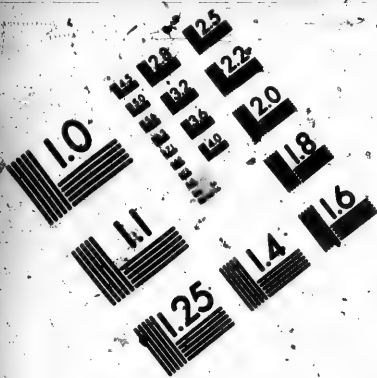
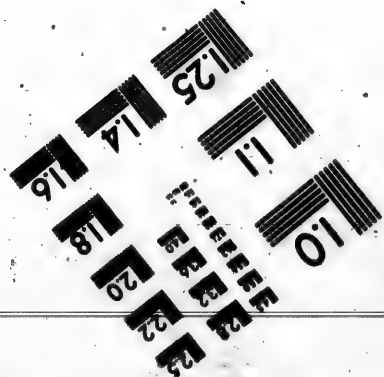
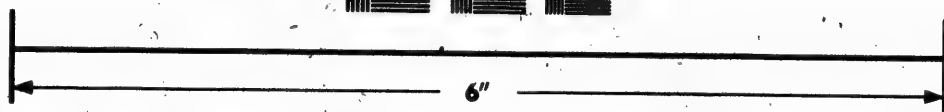
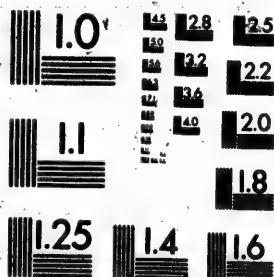


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178 R. ST. LAWRENCE FROM ANTICOSTI TO QUEBEC.

ships bound downward, if at the Pillars, and caught by strong easterly winds, had better run back to this place, than ride below, and risk the loss of anchors.

CRANE ISLAND TO POINT ST. VALLIER.—The direct course and distance from Crane Island to Point St. Vallier are from W. by S. to W.S.W., 4 leagues. Between are the mud bank of St. Thomas, the Wye Rocks, the Belle Chasse Island, and the bank of Grosse Island. When St. Thomas's Church bears S.E. $\frac{1}{2}$ E. you will be abreast the point of the bank named Margaret's Tail, having a red buoy, and may thence steer directly up, W.S.W. The mark for the southern edge of Margaret's Tail Bank is, the south side of Haystack Island and Crane Island Church in one, bearing E.N.E.

To avoid the Wye Rocks, never stand to the southward of 6 fathoms in the night; and by day, observe that the long mark to keep clear of them is Belle Chasse Island and Point St. Vallier, touching, bearing W.S.W. They are out of the way of vessels, with a fair wind, and the cross mark for them is the Seminaire on the north shore in one with the east point of Reaux Island, and Crow Island just open to the westward of Middle Island.

To the west of Margaret's Tail is a narrow rocky shoal named Grosse Patch, with 7 feet least water; between this shoal and Margaret's Tail is a channel 270 fathoms wide, and 5 fathoms deep, leading to the Quarantine Establishment on the southern side of Grosse Island. For the guidance of the numerous vessels which stop there, a red buoy has been placed on the S.W. end of Margaret's Tail, as before mentioned, and also a white buoy on the N.E. of Grosse Patch; but in the absence of the buoys, the east points of Grosse Island and the Brothers in one, bearing N. by E., will lead through. There is a passage to the west of Grosse Patch, between it and the Island, but care must be taken to avoid a small rock, with 7 feet least water, lying 180 fathoms off Grosse Island, and on which a chequered buoy has been placed.

When above Margaret Island, stand no farther to the northward than into 6 fathoms. Reaux or Rat Island and Madame are flat to the southward; 7 fathoms will be near enough to both. The south side of the channel, up to Belle Chasse Island, is all bold; 8 fathoms are close to it, with 7, 8, 9, and 5 fathoms, quite across. There is good clean anchoring-ground, and easy tides, all the way.

When up to Belle Chasse Island, stand no nearer to it than 8 fathoms, and to Madame than 6 fathoms. The shoal extending from Madame has already been noticed.

The mark for clearing the southern side of Madame Bank, as well as the Grosse Island Tail and Patch, is, Race Island kept just open to the southward of Margaret Island. The mark for the S.W. extreme, which is the point of the entrance of the North Traverse, is, the north side of Reaux Island just open to the northward of Madame Island, bearing N.E. $\frac{1}{2}$ E., and St. Vallier Church bearing S. $\frac{1}{2}$ E. The cross mark for clearing it to the S.W. is, Berthier Church and the west end of Belle Chasse Island in one.

The North Channel and Traverse and the Middle Traverse are but seldom used, and the description of them will be found on pages 164, 165.

ST. VALLIER TO QUEBEC.—From the Point of St. Vallier to that of St. Lawrence in Orleans, the course and distance are about W. by S. $\frac{1}{2}$ S. $\frac{1}{2}$ miles. Both sides are bold; 10 fathoms in the fairway from Orleans, and 8 fathoms from the south shore. Ships may anchor toward the island, in from 16 to 10 fathoms.

The Shoal of Beaumont is steep-to. Make short boards until you are above Point St. Lawrence, when you will be above it, and may safely stand to the southward into 10 fathoms.

From Point St. Lawrence to Point Levy, the course and distance are W. by N., 2 leagues. At $1\frac{1}{2}$ miles westward from St. Lawrence's Church is St. Patrick's Hole. Here, in about 10 fathoms, is the fairway to tack from. The depth in the middle is 10 fathoms.

From off Point Levy to Quebec, the course is W.S.W., and the distance about 3 miles. The Shoals of Beauport, on the north side, may be easily avoided: in standing toward them advance no nearer than in 10 fathoms, as they are steep-to, and are, in some parts, studded with rocks.

Ships arriving at Quebec, with flood tide and an easterly wind, should take in their canvases in time and have cable ready, as the ground in the basin is not very good for holding. The water is deep, and the tides strong, particularly spring-tides. If obliged to come-to in the middle, there will be found from 16 to 30 fathoms abreast of the town; but near the wharves, or at 2 cables' length from them, is a

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depth of 11 fathoms: and here vessels are easily brought up: but in the offing, 16 fathoms of cable will be required. On the Point Levy side is a depth of nearly 30 fathoms, and the tides are stronger here than near the wharves. With a wind heavy from the eastward, the best riding will be above the wharves, off the cove named Diamond Harbour, in the depth of 10 fathoms.

The Ballast Ground, or place appointed by law for heaving out the ballast in, is to the westward of two beacons fixed on the south shore, above Quebec. These beacons stand on the brow of a hill, above a cove named Charles Cove, and when in a line bear N.W. and S.E. of each other.

RATES OF PILOTAGE.

THE following were the rates of pilotage a few years since, and are added, as we believe they still remain the same:—

From Bic to QUEBEC. Per Foot.	£	s.	d.
From the 2nd to the 30th of April, inclusive.....	1	0	6
1st of May to the 10th of November, inclusive.....	0	18	0
11th to the 19th of November, inclusive	1	3	0
20th November to the 1st of March, inclusive	1	8	0

From QUEBEC to Bic.

From the 2nd to the 30th of April, inclusive.....	0	18	3
1st of May to the 10th of November, inclusive	0	15	9
11th to the 19th of November, inclusive	1	0	9
20th November to the 1st of March, inclusive	1	5	9

Rates of pilot-water and poundage on pilot-money are payable at the Naval Office, by masters and commanders of vessels.

For every foot of water for which masters and commanders of vessels are bound to pay their pilots from Bic to Quebec, and from Quebec to Bic, 2s. 8d. currency, per foot. For vessels going to Three Rivers or Montreal,

Of 100 to 150 tons, inclusive, £2 currency.	
Of 151 to 200 tons, inclusive, £3	"
Of 201 to 250 tons, inclusive, £4	"
Of 250 tons and upwards	£5

On settling with pilots, masters or commanders of vessels, or the consignee of such vessels, are to deduct 1s. in the pound for the amount of the sums to be paid for pilotage, which will be exacted by the Naval Officer at clearing out, the same being funded by law, under the direction of the Trinity House, for the relief of decayed pilots, their widows and children.

REGULATIONS for the pilotage above Bic to QUEBEC.

At or above the anchorage of the Brandy Pots—

Two-thirds of the present rate for a full pilotage.

At or above the Point of St. Roque—

One-third of ditto.

For above the Point aux Pins, on the Isle aux Grues (Crane Island), and below Patrick's Hole—

One-fourth of ditto.

And at and above Patrick's Hole, £1 3s. 4d.

For shifting a vessel from one wharf to another, between Bréhaut's Wharf and Point à Carcis, or to the stream from or to any of the above wharves, 11s. 8d.

For shifting a vessel from the stream or from either of the above wharves, to St. Patrick's Hole, or to the Basin of Montmorency, or to the Ballast Ground, the Basin of the Chaudière, the Wolfe's Cove, and as far as the River Cap Rouge, 41 3s. 4d.

RATES OF PILOTAGE.

RATES above the HARBOUR of QUEBEC:—

From Quebec to Port Neuf.

To Quebec from Port Neuf.

£4 currency.	For vessels of registered measurement,	
£5 " "	not exceeding 200 tons	£2 10s. currency.
£6 " "	If above 200 and not exceeding 250 tons	£3 10s. "
	If above 250 tons	£4 0s. "
To Three Rivers, or above Port Neuf.		
£6 currency.	For vessels not exceeding 200 tons.....	£4 0s. currency.
£7 " "	If above 200 and not exceeding 250 tons	£4 10s. "
£8 " "	If above 250 tons	£5 10s. "
To Montreal, and above Three Rivers.		
£11 currency.	For vessels not exceeding 200 tons.....	£7 10s. currency.
£13 " "	If above 200 and not exceeding 250 tons	£8 15s. "
£16 " "	If above 250 tons	£10 15s. "

Pilots are at liberty to leave vessels forty-eight hours after they arrive at the place of their destination.

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APPENDIX.

THE HARBOURS OF HALIFAX AND ST. JOHN, &c.

A DESCRIPTION of the coasts of Nova Scotia and New Brunswick does not properly come within the limits of the present work; but as many shipmasters, bound to the River St. Lawrence, may also visit the harbours of Halifax or St. John's, it has been thought desirable to append instructions for those ports. For more minute accounts of them, as well as for the various harbours of Nova Scotia and New Brunswick, the reader is referred to our Sailing Directions for the coast of North America, from Cape Canoe to New York Harbour.

HALIFAX HARBOUR is one of the finest in British America. It is easy of approach, and accessible at all seasons, and is said to be large enough to accommodate a great number of vessels in perfect security. Its direction is nearly north and south, and its length about 16 miles. Its upper part, known by the name of Bedford Basin, is a beautiful sheet of water, containing about 10 square miles of good anchorage. The town of Halifax is the capital of Nova Scotia, and contains 18,000 inhabitants.

The land about the Harbour of Halifax, and a little to the southward of it, is in appearance rugged and rocky, and has on it, in several places, scrubby withered wood. Although it seems bold, it is not high, as it is only to be seen from the quarter-deck of a 74 gun-ship at 7 leagues' distance; excepting, however, the high lands of Le Have and Aspotogon, which have been seen 9 leagues off. When Aspotogon highland, which has a long level appearance, bears North, distant 6 leagues, an E.N.E. course will carry you to Sambro' Lighthouse, standing on Sambro' Island.

Sambro' Island is a small rocky island lying $3\frac{1}{2}$ miles to the S.W. from Chebucto Head, on the western side of the entrance to the harbour. On it there is a white octagon-shaped lighthouse, 60 feet high, showing a fixed light at 115 feet above the level of the sea, visible 20 to 25 miles. Pilots may be obtained from the island, and if a vessel fires a gun during a fog, it will be answered from the island.

On the eastern side of the channel into the harbour is Macnab's or Cornwallis Island, which is connected to the eastern shore by a flat of 8 to 12 feet. The passage on this side of the island, named the Eastern Passage, is too shallow and confined to be used by any but boats, so that vessels always use the western passage into the harbour. From the south end of the island a shoal extends about a mile to the southward, and upon this flat there is a small island, named Thrum Cap. There are also two islands to the eastward of Macnab's, named Lizard and Devil, the latter being close off the eastern point of the harbour. No ship passage exists between Devil Island and the shore, nothing larger than boats being able to pass.

To the northward of Macnab's Island is George Island, a small island lying in mid-channel opposite the town. Close off it there are 4 to 5 fathoms, and in the channel between it and the town are 6 and 10 fathoms, while to the eastward of it are 13 and 14 fathoms.

Lights.—On Maugher Beach, a gravel spit extending from the western side of Macnab's Island, there is a white circular tower having a red roof, from which a red fixed light is shown at the height of 68 feet above the sea, visible 10 miles. When Sambro' Light bears W.S.W., this light should not be brought to the westward of North, and it will clear the Thrum Cap shoal.

On Devil Island there is a building painted brown, with a white belt, from which

a light appearing red towards the sea is shown at the height of 45 feet above high water, visible about 8 miles. From this island pilots may be obtained.

Within the harbour, on the eastern side, there is a small cove in Maenab's Island, close to Maugher Beach, in which there is good anchorage in from 9 to 4 fathoms, muddy bottom. The best spot is represented to be in 7 fathoms, with Maugher Beach touching Sandwich Point, and the tower on George's Island touching Ives Point.

On the western side of the approach to the harbour is the rocky promontory of Chebucto Head, to the southward of which, for the space of about 4 miles, there are numerous rocks and shoals, which must always be carefully avoided when approaching the harbour from the westward. The assistance of local knowledge is absolutely requisite to enable you to sail among them, so that no vessel ought to approach the harbour, running along the coast from the westward, without having a pilot on board. These shoals surround Sambro' Island in all directions, and it is possible that some dangers may remain even yet undiscovered, one, the Owen Rock, having been met with so recently as 1844.

At $1\frac{1}{2}$ miles to the westward of Chebucto Head is a small harbour, named Catch Harbour, in which there is a depth of 2 and $2\frac{1}{2}$ fathoms, but the access is over a bar of 10 feet. At the head of the harbour is a stream of good fresh water. There is also a cove, named Herring Cove, at $3\frac{1}{2}$ miles to the north of Chebucto Head, the entrance to which is about 100 fathoms wide, and quite bold on either side; with 6, 6, and 4 fathoms up to the elbow that forms the inner cove, where small vessels may lie in perfect security in a depth of 7 to 9 feet.

Rocks in the vicinity of Sambro' Light.—At the distance of about $1\frac{1}{2}$ miles S.E. E. from Sambro' Lighthouse is a bank of 12 to 18 fathoms, named the Hensery Bank, which is about $\frac{1}{2}$ of a mile in extent, and has soundings of 20 and 25 fathoms close to it. On its centre there are but 9 fathoms, and it is said that in one part there are only 8 feet; but less than 9 fathoms was not found by Com. Shortland, when he sounded over the bank in 1852. Between this bank and Sambro' Island, there are several dangerous patches, the positions of which it is supposed have not been very accurately assigned.

A rock of 12 feet water, named the Lookwood, has been reported to exist at about a mile from the Hensery Bank, in an E.N.E. direction. In the recently corrected charts of this part of the coast, deep water of 50 fathoms is laid down in this position.

The westernmost of the dangers about Sambro' Island is the Bull Rock, which lies $\frac{1}{2}$ mile S.E. by E. from the extremity of Pennant Point, with Sambro' Lighthouse bearing E. $\frac{1}{2}$ S., distant $2\frac{1}{2}$ miles. At $1\frac{1}{2}$ mile W. by S. $\frac{1}{2}$ S. from the lighthouse are the Horse and Mare Rocks, and at nearly 3 miles W.S.W. $\frac{1}{2}$ S. from the same building is the Smithson Shoal, a rock of 16 feet water, lying 2 miles S.E. by S. from the extremity of Pennant Point. The South-west Ledge or Breaker lies $1\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. from the lighthouse, and E. by N. $\frac{1}{2}$ N. $\frac{1}{2}$ of a mile from it, is a rock of 8 feet water. Nearer Sambro' Island there are several dangers; and within the island between it and the shore, are several rocks, the principal of which are the Gull, Whale Back, Fairweather, and Torpys Ledges, so that no vessel ought to attempt to pass this way except in cases of extreme emergency. But little if any warning is given by the lead when approaching these rocks, there being as much as 10 fathoms close to the Bull, and from the Smithson Shoal the lead will drop into 18 or 14 fathoms.

To the eastward of Sambro' Island are the Black Rock, Broad Shoal, Sisters, Owen's Rock, and other dangers, which exist more or less to a distance of $1\frac{1}{2}$ miles from the lighthouse. Of these dangers the Black Rock always shows, and the Sisters are uncovered at low water; but there are others under water, and as they all have deep water close to them, sailing in their vicinity is extremely dangerous. The Owen Rock, so named from its discoverer, Captain Owen, of H. M. steam vessel *Colombia*, lies with Sambro' Lighthouse S.W. to S.W. by W. $\frac{1}{2}$ W., distant one and three-fifths of a mile. Captain Owen in his report says:—"The *Colombia* touched on a sunken rock or ledge without entirely losing her way, so that there must have been at least 12 feet water on the part she touched (her draught being 12 $\frac{1}{2}$ feet); just before the vessel touched there were 11 fathoms, 8 fathoms at the time at the starboard paddle-box, and 18 fathoms at the port paddle-box."

There is also a rock named the Bell, a small rock of 6 feet, lying $\frac{1}{2}$ of a mile from

the shore, nearly midway between the entrance to Catch Harbour and Chebucto Head. In a northerly direction, towards the coast, it has a spit of $4\frac{1}{2}$ fathoms, extending from it a short distance, but in other respects it is steep-to, there being 7 and 8 fathoms close to its eastern, and 13 and 24 fathoms close to its western, side. Between it and the shore there are 14 and 8 fathoms, but no ship should attempt to pass inside it, on account of the dangerous rocks, named Duck and Duncan Reefs, which extend from the land and nearly block up the passage. The rock bears from the extremity of Chebucto Head nearly S.S.W. $\frac{1}{2}$ W. one mile, and from White Head, the east point of Catch Harbour, E. $\frac{1}{2}$ N. about $\frac{1}{2}$ a mile. To avoid it on the east side do not go to the westward of the line of Sandwich Point in one with Chebucto Head N. $\frac{1}{2}$ E., as that mark will carry you clear of it, and also to the eastward of the Sisters, and other ledges, in the vicinity of Sambro' Island.

Rocks at the entrance to the Harbour.—Within the line of Chebucto Head to the S.W. and Devil Island to the N.E., there are several rocks and ledges, the outermost of which is the Portuguese Shoal, a small shoal of $4\frac{1}{2}$ or 5 fathoms, lying 3 miles S.W. $\frac{1}{2}$ W. from the lighthouse on Devil Island; 4 miles S. $\frac{1}{2}$ E. from the lighthouse on Maugher Beach; and 2 $\frac{1}{2}$ miles N.E. $\frac{1}{2}$ N. from the extremity of Chebucto Head. Close to it all around are 6 and 7 fathoms. Its western side is marked by a black and white beacon buoy, lying with George Island open a little westward of the light on Maugher Beach.

The Rock Head Shoal lies nearly $\frac{1}{2}$ of a mile to the E.N.E. of the buoy on the Portuguese Shoal. It is about $\frac{1}{2}$ of a mile in extent, and has $3\frac{1}{2}$ to $4\frac{1}{2}$ fathoms upon it, with 6 to 10 fathoms close to all round. To clear it, as well as the Portuguese Shoal, on the east side, bring Sambro' Lighthouse Island open east of White Head, bearing S.W. $\frac{1}{2}$ S.

In the old charts of Halifax Harbour the Portuguese Shoal is not mentioned, but a black and white buoy is placed on the Rock Head. We presume that the buoy was removed to the Portuguese Shoal on its discovery.

The Lichfield Rock lies on the western side of the approach to the harbour, at rather more than $\frac{1}{2}$ of a mile from the shore, in the direction of S.E. by S. from the mouth of Herring Cove. It has upon it $2\frac{1}{2}$ fathoms, and there are 9 to 16 and 17 fathoms at a short distance from it, the deepest water being between it and the coast, where there are as much as 20 fathoms of water. It is marked by a white beacon buoy.

The Neverfail Shoal is a shoal of $4\frac{1}{2}$ fathoms, lying in the middle of the approach to the harbour, at nearly midway between the Lichfield Rock and the Thrum Cap Shoal. It has 5 and 6 fathoms immediately around it, and at present (1854) is not marked by a buoy. You may sail between it and the Lichfield Rock by bringing the Flag-staff of the Citadel open east of Sandwich Point, bearing N. $\frac{1}{2}$ W.

The Mars Rock lies under Sandwich Point, the western point of the harbour, at about $\frac{1}{2}$ of a mile from the land. On its shoalest part there are $3\frac{1}{2}$ fathoms, and immediately around it are 8 and 10, deepening to 19 and 20 fathoms. Its eastern edge is marked by a white beacon buoy.

The Thrum Cap Shoal is a shallow flat of $1\frac{1}{2}$ to 3 fathoms, extending nearly a mile to the S.S.W. from the south end of Mainab's Island, on the eastern side of the harbour. It must be carefully avoided when making the harbour from the eastward, and the red beacon buoy on its edge should always be passed on the south side.

From the south side of Maugher Beach a flat of $2\frac{1}{2}$ to $4\frac{1}{2}$ fathoms extends about $\frac{1}{2}$ a mile, and has on it, near the extremity, a patch of $8\frac{1}{2}$ fathoms. To clear this flat when running into the harbour, bring the Roman Catholic Chapel, at Dartmouth, in one with the east point of George Island, bearing north, and you will avoid it in 10 or 11 fathoms.

Pleasant Shoal, running off from the point of the same name, is about midway between Maugher Beach and George Island, on the western side of the channel. It extends nearly half the channel over, and has on its eastern edge a white beacon buoy lying with Chebucto Head open of Sandwich Point, and the Citadel Flag-staff N. by W. $\frac{1}{2}$ W. There is also a small patch of $4\frac{1}{2}$ to 5 fathoms, called the Middle Ground, between this shoal and Maugher Beach. It is about a cable's length from north to south, and about the same in breadth. On its eastern side the soundings

* This appears to be S.W. $\frac{1}{2}$ W. by the chart, and not S.W. $\frac{1}{2}$ S.

are from 7 to 18 fathoms, muddy bottom, while on its western side they are from 8 to 17 fathoms, coarse and rocky bottom.

To the northward of the Pleasant Shoal, and on the western side of the channel, is the Reed Rock, having only $\frac{1}{2}$ foot over it; it is marked by a white buoy. There is a narrow passage between it and the shore, of from $1\frac{1}{2}$ to 6 and 7 fathoms, but it would be hazardous for a stranger to attempt to sail through it. To pass the rock on the eastern side, in 13 and 14 fathoms, bring Chebucto Head open of Sandwich Point; this mark will also clear the Pleasant Shoal.

Ives Knoll, on the eastern side of the channel, and which, along with the Reed Rock, contracts the navigable passage to $\frac{1}{2}$ of a mile, has, on its shoalest part, only 1 foot of water. It takes its name from the N.W. point of Macnab's Island, off which it extends about $\frac{1}{2}$ a mile to the northward. Its western edge is pointed out by a buoy painted red.

The shoals, on the western side of the harbour, near George Island, also marked by two white buoys, are named the Belleisle and Leopard.

DIRECTIONS.—No vessel ought to attempt the harbour of Halifax without having a local pilot on board. In the event of not being able to get one, the following directions may be serviceable.

In sailing into Halifax Harbour from the westward, you should advance to the eastward so as to pass Sambro' Lighthouse at the distance of a league, taking care not to approach nearer to it on account of the various dangers in its vicinity. When the lighthouse bears N.N.W. $\frac{1}{2}$ W. you will be in a line with the Henery Bank, and with it N.W. $\frac{1}{2}$ W. in a line with the reported position of the Lockwood. With the lighthouse W.N.W. you will be clear to the northward of both, and may proceed N. by E., 4 miles, which will bring you off Chebucto Head. Here you should bring the leading mark on, which is the flag-staff on the Citadel Hill open east of Point Sandwich, and bearing N. $\frac{1}{2}$ W., as you will then pass clear between the Richfield Rock on the west, and the Rock Head, Portuguese, Neverfail, and Thrum Cap Shoals on the east side. When up to the buoy on the Mars Rock, bring the Roman Catholic Chapel at Dartmouth in one with the east point of George Island, as it will lead in the fairway up to George Island, leaving Point Pleasant Shoal on the left, and Maugher Beach with Ives Knoll on the right.

Or, when abreast of Chebucto Head, or when Sambro' light bears W.S.W., the light on Maugher Beach should never be brought to the westward of North. Keeping the light from North to N. by E. will lead clear of the Thrum Cap Shoal, from the buoy on which the lighthouse bears N. $\frac{1}{2}$ W. Those advancing from the westward will see the light on Maugher Beach, when they are as far up as Chebucto Head; it is then a good mark up to the beach.

George Island may be passed on either side, and you may choose your anchorage at pleasure, in from 13 to 6 fathoms, muddy bottom. From George Island to the head of Bedford Basin there is no obstruction to shipping.

Ships of war usually anchor off the Naval Yard, which may be distinguished at a distance by the masting sheers. Merchant-vessels discharge and take in their cargoes at the town-wharves.

Small vessels from the eastward, occasionally proceed to Halifax by the S.E. passage, within Macnab's Island. On the shoalest part of the bar of sand, which obstructs this passage, there are, however, but 8 feet at low water. Above the bar the depth increases to 5 and 10 fathoms, bottom of mud.

In sailing into Halifax Harbour from the eastward, especially with an easterly wind, observe that the Thrum Cap and Rock Head must be carefully avoided. In proceeding this way, steer West, W.N.W., or N.W., according to the wind and your distance from the shoals, until George Island, up the harbour, is open a sail's breadth to the westward of Macnab's Island; then haul up for Sandwich Point and York Redoubt, and proceed up the harbour, taking care to avoid the shoal extending from Point Pleasant. In turning to windward, give the upper or inner part of Maugher Beach a berth of one cable's length, in order to avoid the Horse Shoe Reef, that runs from the north part of the beach to the distance of $1\frac{1}{2}$ cables' length. You may stand to the Sandwich Point side to within two ships' length, that being bold-to; but stand no further over to the westward, to avoid Point Pleasant Shoal, than Chebucto Head open of Sandwich Point.*

* It is said that there is great difficulty in making Halifax from the eastward, particularly in the winter season, in consequence of the winds being too frequently from the W.S.W. to N.W., and

Mr. Davy, R.N., of H.M.S. Cornwallis, made the following remarks while proceeding from Halifax to Quebec. The Cornwallis left Halifax on June 4th, 1838:—

"Wind north with fine weather, sailed with Pearl, Dee, and Charybdis for the Gut of Canso. Passed out between the Thrum Cap and Rock Head Shoals to within a cable's length of the Thrum Cap buoy, having 10 fathoms water; this channel is quite safe. Being thus clear, 27 miles led us to the southward of the Jedore Shoals; then East for White Head, wind and weather looking favourable. Just to the eastward of Cole Harbour is a remarkable red cliff, making in a well-formed saddle; the red is bright, and the eastern coast, thereby, is easily recognized; while the coast to the westward of Halifax is known by its white cliffs. It is advisable for strangers running from Jedore to Canso, not to approach the coast nearer than 10 miles, until abreast of Tor Bay. This is a spacious bay, having Berry Head at its western point and Cape Martingo at its eastern, 6 miles apart. White Head Island, immediately to the eastward of Tor Bay, is the most remarkable land on the coast, and is as a beacon to the pilots; it stands well out, and from the westward terminates the eastern view. Being 10 miles south of it, steer N.E. by E. for Canso Lighthouse, which is a tall white building, and makes well out to seaward, on a small, low island, named Cranberry Island. It exhibits good fixed lights which must be brought to bear West before keeping away; then steer N.N.W., until George Island bears West, thence N.W. and N.N.W. for Cape Argos. Avoiding the Cerberus Shoal, which is very dangerous, and directly in the track, leave it on your port hand. Cape Argos makes like a round island, and is bold to approach; passing this, the distance across the gut becomes narrowed to $1\frac{1}{2}$ miles."—*Naut. Mag.*, 1839, p. 299.

On the coast from Halifax, westward, to Margaret's Bay, the country appears, from the offing, very rocky with numerous inlets, the shore being steep-to, and bounded with white rocky cliffs. The high lands of Aspotogon, on the east side of Mahone Bay, are very remarkable; and proceeding eastward from Mahone Bay the rocks which surround the shore are black, with some banks of red earth. Between Cape Le Have (which is a remarkable promontory, 107 feet above the sea, bald on the top, with a red bank under it, facing the south-westward) and Port Medway, there are some hummocks inland, about which the country appears low and level from the sea; and, on the shore, white rock and stony beaches, with several low bald points; hence to Shelburne Harbour the land is woody. About the entrance of Port Latour, and within land, are several barren spots, which, from the offing, are easily discerned; thence, to Cape Sable, the land appears level and low, and on the shore are some cliffs of exceedingly white sand, particularly at the entrance to Port Latour, and at Cape Sable, where they are very conspicuous from the sea.

ST. JOHN'S HARBOUR.—The entrance of this harbour bears from the entrance of the Gut of Annapolis N. $\frac{1}{2}$ W., 11 miles, and may be distinguished by the lighthouse on Partridge Island, which shows a red light at 120 feet above the level of the sea, visible 20 miles. The tower is painted red and white, in vertical stripes, and is furnished with a bell, to be invariably tolled in thick or foggy weather; its position is lat. $45^{\circ}14'8''$ N., and long. $66^{\circ}3'5''$ W. As a guide to vessels making St. John's, a large iron fog-bell has lately been placed in $7\frac{1}{2}$ fathoms, at the entrance to the harbour. It lies with Cape Spencer, bearing S. 59° E.; Cape Mispeick, S. 63° E., 24 miles; Partridge Lighthouse, N. 21° E., $1\frac{1}{2}$ miles; Sheldon Point, N. 49° W., $1\frac{1}{2}$ miles; Medginish south-east point, N. 76° W., 2 miles; Cape Negro, red mark, S. 81° W., $4\frac{1}{2}$ miles; and Cape Split, S. 78° W. The height of the bell above the buoy is 19 feet.

A *beacon light* is shown within Partridge Island, from a tower erected upon a spit or bar which runs out from Sand Point S.E.E. about $\frac{1}{4}$ a mile, and which dries at two-thirds ebb. This light is of great utility to the coasters, and all other vessels having pilots on board, as it enables them to enter the harbour at all hours of the night.

blowing so hard as to reduce a ship to very low canvases, if not to bare poles; and should the wind come to the eastward, it is invariably attended with such thick weather as to prevent an observation or seeing to any great distance; hence, under such circumstances, it would be imprudent to run for the shore, more particularly in winter, when the easterly winds are attended with sleet and snow, which lodge about the masts, sails, rigging, and every part of the ship, becoming a solid body of ice so soon as the wind shifts round to the N.W., which it does suddenly from the eastward. These are circumstances of real difficulty; and it has been recommended, in such a case, to run far to the south-westward, (avoiding the Gulf Stream,) and thence from the S.W. coast, to keep the shore on board, all the way to Halifax.

North-east from the beacon light, just off the town, is a ridge of rocks which is covered at 2 hours' flood; from this ridge and eastward of the town are extensive flats of sand and mud, which dry at low water, and extend along the road to Cranberry Point, stretching off about 2 cables' length.

The bottom, for several miles to the southward of Partridge Island, is muddy, and the depths gradual, from 7 to 20 fathoms, affording excellent anchorage; the passage westward of this island has in it 10 feet; that to the eastward has 16 feet; and abreast of the city are from 7 to 12 fathoms.

A breakwater has been erected on the eastern side of the entrance to the harbour, below the town, for the purpose of reducing the inset of the sea, especially during a southerly gale.

The CITY OF ST. JOHN stands on the River St. John near its mouth, and carries on a considerable trade, and many ships are built here. Within the harbour is a valuable fishery, where large quantities of salmon, herrings, and chad are cured for exportation. In the most severe winter it is free from the incumbrance of ice. The country on the banks of the river abounds in excellent timber, coal, limestone, and other minerals. Partridge Island is about 3 miles to the southward of the city, answering the double purpose of protecting the harbour, and, by its lighthouse, guiding and directing the mariner to its entrance.

The entrance into the river, 2 miles above the town of St. John, is over the Falls, a narrow channel of 80 yards in breadth, and about 400 long. This channel is straight, and a ridge of rocks so extends across it as to retain the fresh water of the river. The common tides flowing here about 20 feet, at low water the level of the river is about 12 feet higher than that of the sea; and, at high water, the level of the sea is from 5 to 8 feet higher than that of the river; so that, in every tide, there are two falls, one outward and one inward. The only time of passing this place is when the water of the river is level with the water of the sea, which is twice in a tide; and this opportunity of passing continues not above 10 minutes: at all other times it is impassable, or extremely dangerous. After passing the Falls, you enter into a gullet, which is about a quarter of a mile wide, and two miles long, winding in several courses, and having about 16 fathoms in the channel. Having passed this gullet, you enter a fine large basin $1\frac{1}{2}$ miles wide, and 3 miles long, which enters the main river. The river branches some hundreds of miles up, in a serpentine manner, and runs through a country which abounds with timber, coal, limestone, and many other minerals; and the surrounding lands are now becoming highly cultivated. There is water enough to navigate vessels of 50 tons as high as Frederickton, and in all the branches of the lakes adjacent, except in dry seasons. At times of great freshes, which generally happen between the beginning of April and the middle of May, from the melting of the snow, the Falls are absolutely impassable to vessels bound up the river, as the tide does not rise to their level.

The following directions for St. John's Harbour and Meogenes Bay were written a few years since by Mr. Backhouse. It should be mentioned that from Captain Owen's survey it would appear that the passage on the east side of Partridge Island is the best, there being in the other only 7 to 12 feet, and some shoal spots of less water at low tide.

"When you make Meogenes Island, or Partridge Isle, so as to be distinguished from the lighthouse on the latter, then make a signal for a pilot, and the intelligence from Partridge Island will be immediately communicated to the City of St. John, whence a pilot will join you. Should the wind be contrary, or any other obstruction meet you, to prevent your obtaining the harbour that tide, you may sail in between the S.W. end of Meogenes Island and the main, or between the N.E. end and the main, and come to anchor in 4 or 5 fathoms at low water, mud and sandy bottom. The mark for the best anchoring ground here is, to bring the three hills in the country to the N.E. in a line within Rocky Point Island,* and the house on Meogenes Island to bear S.E. by S.

Should the tide of ebb have taken place at the beacon, you must not, by any means, attempt to gain the harbour that tide, but wait the next half flood, to go over the bar, as both sides of the entrance of this harbour are nothing but sharp rocks dry at low water; and the tide of ebb is so rapid in the spring, when the ice

* This is an inlet, lying at a cable's length from the point, and more properly named the Shag Rock. It is surrounded by sunken rocks.

and snow are dissolved, that all the anchors on board will not hold the ship from driving.

On the Nova Scotia side of the Bay of Fundy, your soundings will be from 50 to 60, 70, 80, to 95 fathoms; stones like beans, and coarse sand; and as you draw to the northward, the quality of the ground will alter to a fine sand, and some small shells with black specks. Approach no nearer to the south shore than in 50 fathoms; and, as you edge off to the N.W. and W.N.W., you will fall off the bank, and have no soundings.

When you have passed Meogenes Island, edge in-shore towards Rocky Point, until Meogenes Point (*Negro Head*) is in a line over the N.W. corner of Meogenes Island; sailing in between Rocky Point, and Partridge Island, with these marks in one, will lead you in the best water over the bar, (9 to 15 feet,) until you open Point Mispick to the northward of the low point on Partridge Island; then starboard your helm, and edge toward Thompson's Point, until the red store, at the south end of St. John's, is in a line over the beacon; keep them in one until you pass the beacon at a distance of a ship's breadth; then haul up N.N.W. up the harbour, keeping the blockhouse, at the upper part of the harbour, open to the westward of the king's store, situated close to the water side, which will lead you, in mid-channel, up to the wharves, where you may lie aground dry, at half-tide, and clean your ship's bottom, or lie afloat in the stream at single anchor, with a hawser fast to the posts of the wharves on shore. —N.B. The tide of flood here is weak, but the ebb runs very rapidly all the way down past Meogenes Island.

The following directions are based on the details of the survey of Lieutenants Harding and Kortright, acting under the orders of Captain W. F. W. Owen, of the Royal Navy, in 1844.

When running for St. John's avoid the rocky ledge running off Inner Mispick Point, the eastern side of the entrance, to the distance of 2½ cables' length, and which is steep-to, with 30 to 40 feet close off; and having brought the stone barracks in one with the Wesleyan Chapel,* at the back of the town, bearing N. ½ E., steer in with this mark on, and it will carry you outside of the shoal water extending from the eastern side of Partridge Island. When Carleton Church comes in one with the cliff end, (the termination of the cliffs forming Negro Point,) bearing about N.W. ½ N., you must change your course to this direction, and it will lead you in from 15 to 22 feet at 1½ cables' length to the northward of the shoal ground extending between Partridge Island and Negro Point. Continue in this direction until the stone church at the back of the town comes on the end of the breakwater, when you must run up with this mark past the beacon-light into the harbour. When just above the beacon-light steer N. by W. or N. by W. ½ W., and anchor off the town. Be careful to keep the lead going when following these directions, that you do not strike on the shoal spots.

To the north-eastward of the beacon-light, and just off the town, is a ridge of rocks which is covered at 2 hours' flood. From this ridge, and eastward of the town, there is an extensive flat of mud and sand which dries at low water; this extends along the coast to Cranberry Point, and runs about 2 cables' length from the shore. Cranberry Point is cliffy, and has some rocks running off it.

It is high water on the days of full and change at 11h. 44m.; spring-tides rise 23 to 25 feet, and neaps 21 to 23 feet.

SIGNALS.—The following signals are displayed at Partridge Island, on the approach of vessels to the harbour of St. John:—

One ball close for	square-rigged vessel.
One ball half-hoisted for	"
Two balls close for	"
Two balls separated for	"
A pendant of any colour for	"
A pendant under a ball for	"
A pendant over a ball half-hoisted for ...	"
A pendant under two balls close for	"
A pendant under two balls separated for...	"
A flag of any colour for.....	10 or more "

* This building will be known by its octagonal tower with a circular top. It is situated in the N.E. part of the town.

THE HARBOURS OF HALIFAX AND ST. JOHN, &c.

The above are displayed at the east or west yard-arm, according to the direction in which the vessels are at first observed; and as soon as their rig can be distinguished, descriptive colours will be hoisted at the mast-head in the following order:—

A union jack, with a white pendant over...	for a small armed vessel.
A blue pendant	" merchant ship.
A red ditto	" merchant brig.
A white and blue ditto	" foreign vessel.
A white ditto (without a ball)	" top-sail schooner or sloop.
A red flag, pierced white	" steamboat from St. Andrew's and Eastport.

A ball at the mast-head

.. vessel is on shore or in distress.
Should immediate aid be necessary, guns to be fired. In foggy weather, a gun will be fired on Partridge Island in return for each heard at sea. Should a vessel require a pilot, her descriptive pendant will be displayed at a yard-arm in the place of a ball.

In regard to the time for going through the Falls, near St. John, it may be mentioned that the Falls are level (or still water) at about 8½ hours on the flood, and about 8½ on the ebb, which makes them passable four times in twenty-four hours, about 10 or 15 minutes each time. No other rule can be given, as much depends on the floods in the River St. John, and the time of high water, or full sea, which is often hastened by high winds, and in proportion to the height of them.

To the W.S. westward of Meogenes Island, is Flat Bay, in which the depth is 5 and 4 fathoms water. It is a small harbour, occasionally used by coasters. From hence the land runs nearly W.S.W., passing Negro Head and Halfway Point, (on which is a white horizontal stripe, about 5 feet broad, and which appears to be 40 feet long,) to Cape Musquash, which is 9 miles from Partridge Island. Close off Cape Musquash is the Split Rock, with 8 fathoms very near it; this rock is marked by seven white balls, six of which are distinctly visible at a distance of 10 or 12 miles.

THE END.

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